

# FINANCIAL TIMES

EUROPE'S BUSINESS NEWSPAPER

Monday October 22 1984

No. 29,454

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France at the  
European  
fulcrum, Page 15

Exchange	Rate
London	100 = 1280
New York	100 = 138
Paris	100 = 138
Geneva	100 = 138
Frankfurt	100 = 138
Stockholm	100 = 138
Oslo	100 = 138
Copenhagen	100 = 138
Aarhus	100 = 138
Helsinki	100 = 138
Tampere	100 = 138
London	100 = 138
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Frankfurt	100 = 138
Stockholm	100 = 138
Oslo	100 = 138
Copenhagen	100 = 138
Aarhus	100 = 138
Helsinki	100 = 138
Tampere	100 = 138

## NEWS SUMMARY

GENERAL BUSINESS

### Durban three denied visitors

Britain banned visits by relatives and lawyers to the three anti-apartheid activists sheltering in Durban consulate and said that they would be expelled if they continued making political statements.

### Insider dealing probe in HK

HONG KONG: A tribunal has been set up to investigate possible insider dealing linked with an abortive HK\$1bn property deal involving prominent business figures from the colony and China.

## Bermuda offers futures market a silent switch-on

HAMILTON, Bermuda, will be the unlikely venue on Thursday for the inauguration of an important technological advance, which, if successful, might revolutionize international futures trading.

In a ceremony to be beamed to the U.S. and to London, Mr John Swan, Bermuda's Prime Minister, will cut the ribbon to open Intex, the world's first automated futures exchange.

A computer in Bermuda will match bids and offers for gold futures tapped in by traders in Chicago, New York and London.

Futures trading has grown rapidly in recent years as investors sought to protect themselves from, or benefit from, possible future price movements. A futures contract gives the buyer the right to receive, and the seller the obligation to deliver, a given commodity at a fixed price and future date.

Intex is the brainchild of Mr Eugene Grammer, a 59-year-old American who decided after a 30-year career with Merrill Lynch that futures trading pits were becoming too crowded and chaotic to be efficient. Silent screens, he thought, should replace the clamour and arm-waving.

The development of Intex has faltered several times since its conception in 1981. The original computer system was abandoned, and new innovations of capital from U.S. venture capitalists were required. This year a British company, Mr Max Lewinson's Dominion International, paid \$3m for a 25 per cent stake.

"After the years of frustration and pain, it is very exciting," says Mr David Graves, executive vice-president and chief operating officer of Intex in New York. In nearly two months of tests, he adds, "the central processing system has run absolutely flawlessly."

Despite the opening fanfare, it will be a modest start. Just one commodity will be traded, a 100-oz gold contract similar to the very active one traded on the New York Comex. Silver, U.S. Treasury bond and freight rate index futures are to be added later.

Only 35 "trading stations" - comprising a microcomputer, two screens and a high-speed printer - have so far been hooked up to the Digital Equipment computer in Bermuda.

Orders for more trading stations are beginning to flow from some of the 205 members who signed up several years ago, but installation takes time, especially since it requires dedicated telephone lines.

## Safra set to quit Amex but may buy back part of TDB

AMERICAN EXPRESS will announce within the next few days that Mr Edmond Safra, the Geneva-based banker who sold his Trade Development Bank, a private banking business, to the financial services company for \$520m last year, is ending any day-to-day involvement with Amex's international banking business.

Under the terms of a deal being worked out, it is also likely that Amex will sell back a small portion of the TDB empire to Mr Safra. TDB's Paris operations would be the most likely candidate.

Amex has had particular difficulty integrating the Paris TDB business into its American Express International Bank (AIEBC) operations partly because of political difficulties with the French Government.

The speculation move follows mounting criticism about Mr Safra's future within American Express and rumours, which have been denied, of friction between M Safra and senior Amex executives.

Under the terms of the TDB acquisition, Mr Safra became chairman of AIEBC earlier this year, but it is understood to have found working within the American Express Group particularly difficult. His contract as chairman expires on March 1.

American Express declined to comment on the changes yesterday. However, the company is expected to make an announcement shortly in which it is likely to name Mr Bob Smith, president of AIEBC, as chairman and chief executive of Amex's international banking group.

Last week the financial services company posted its first quarterly profits increase for the past three quarters when it reported net earnings of \$185.2m.

It is understood that negotiations between Mr Safra and American Express have been under way "for several weeks." Initially Mr Safra proposed buying back most of TDB's operations, perhaps as much as 80 per cent. However, Amex rejected the proposal because the price was too low - under £500m - and because it wanted to retain the unit.

It is, however, still thought "a remote possibility" that Mr Safra might increase the price to a level where Amex would sell back more than just the Paris operations.

Under the terms of the still incomplete deal with Amex, Mr Safra is understood to have expressed an interest in becoming a director of the parent group.

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## UK coal chief gets new aide in bid to improve public image

FRESH ATTEMPTS are to be made in Britain to try to avert the threatened strike on Thursday by the pit supervisors' union, Nacods. If the strike takes place, it might close the collieries that have continued to produce coal during the 33-week strike by miners.

Another attempt to find a settlement in the miners' dispute is likely to follow the appointment, announced at the weekend, of Mr Michael Easton as a personal assistant to Mr Ian MacGregor, chairman of the National Coal Board (NCB).

Mr Easton, aged 50, is the board's North Yorkshire area director and has long experience in the mining industry. He is being given a very wide brief to improve the board's communications with the public and with its workforce. He will advise Mr MacGregor on the conduct of the dispute.

His appointment follows widespread criticism of Mr MacGregor's abrasive manner and of the board's presentation of its case.

The appointment also marks Mr Easton as a possible future chairman, although the Government and the coal board emphasised that Mr MacGregor remained in charge of the industry and would continue to lead the negotiations.

The independent conciliation and arbitration service Acas will today explore whether there is scope for new talks. The most recent talks between the disputing parties - which were held at the offices of Acas - collapsed at the start of last week.

The senior leaders of the Trades

## East bloc 'threat' to Western shipping

A STRONG warning that the survival of Western shipping companies is severely threatened by the cut-price services being offered by Soviet and Eastern bloc shipping has been issued by the Organisation for Economic Co-operation and Development (OECD).

Its maritime transport committee says in its annual report that Soviet shipping is offering cargo rates which are 10, 20 and even 40 per cent below those of Western competitors. Such aggressive pricing, coupled with the construction of new container and cargo craft, has enabled the Soviet Union to carve out an increasingly important role in world maritime transport.

The report paints a bleak picture of the state of shipping among the 24 member nations of the OECD. It says Western industrialised nations last year accounted for only 47 per cent of world tonnage compared with 87 per cent in 1970. Britain's fleet, it says, has been reduced by 40 per cent in eight years.

The committee says that in 1983 world tonnage fell for the first time since 1935. It believes that large-scale demolition of ships will be necessary to make shipping profitable again.

For the fourth year running, the report says, world volume of shipping traffic diminished, and was at only 84 per cent of its record 1979 level.

It is in that context that the report warns of the dangers to the Western commercial fleet posed by unfair competition from the Eastern bloc.

It says that in spite of representations to Moscow, the Soviet Union has failed to respect self-limitation agreements concluded in 1982. The report estimates that the Soviet commercial fleet is growing at close to the Soviet authorities' target of an annual 4 per cent increase in volume up to 1988.

## Oil nations likely to cut output in bid to hold price

Agony in the Opec nations over the price of oil has become a matter of life and death for some producers. Some producers, such as the UAE, are likely to argue that Opec must overhaul the system of differentials between light and heavy crude. The official prices of Arab light and Arab heavy are \$29 and \$28 but on the spot market the gap is only about \$1.

Tony Walker adds from Cairo: Mr Abdel Hasi Qandil, Egypt's Oil Minister, was quoted by Egypt's Middle East News Agency as saying Egypt would decide within the next few days whether it would cut the price of its export crude.

Egypt exports 250,000-300,000 barrels a day.

Mr Qandil said: "I appeal to oil producers to follow a unified policy to counter the outbreak in prices. If such a policy is followed, the prices will be increased."

Reuter reports from Kuwait: Sheikh Ali Khalifa Al-Sabah, Kuwait's Oil Minister, said yesterday Opec would flexibly defend its prices and rein in output if it had to, but he hinted that any production cut might be short-lived.

Not all Opec countries will be taking part in these early discussions. According to the Kuwait News

## Oil nations likely to cut output in bid to hold price

Agency they will be attended by members from Saudi Arabia, Kuwait, the United Arab Emirates, Algeria, Libya and Venezuela.

It is felt the unprecedented informal gathering taking place in Geneva is in part a propaganda exercise by Opec to keep up the confidence of world oil markets.

Mr Tam David-West, Nigeria's Oil Minister, is also expected to attend.

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## Wayward trawler puts Spain at bay in EEC talks

By Ivo Dawmay in Brussels and Tom Burns in Madrid

THE ILL-FATED voyage of the Spanish trawler Sonja could not have come at a better time for hard-liners within the EEC in the continuing deadlock over what terms offer Spain's fishing fleet on entry to the Community.

The Sonja, 330 tonnes, sank on Saturday morning after being hailed by an Irish fisheries protection vessel off Wexford, south-east Ireland. The trawler, based in the Basque port of Ondorrua, was seen fishing illegally and allegedly ignored orders to leave.

It allegedly attempted to ram the Irish gunboat and managed to reach British waters before it sank. Its crew of 16 were rescued unhurt.

Today, EEC foreign ministers meet again in Luxembourg in an attempt to reach a consensus over restrictions to be imposed on Spain, whose 17,000 fishing vessels amount to about 70 per cent of the entire EEC fleet.

The Sonja incident - the most dramatic of more than 32 illegal fishing cases brought by Ireland against the Spanish this year - will inevitably put Madrid on the defensive. Even if the EEC ministers choose to play down the case publicly, the refusal of the Spanish skipper to surrender despite a direct order from his Ambassador in Dublin will confirm the view that Spain's fleet is both undisciplined and inadequately policed.

Sr Fernando Moran, Spain's Foreign Minister, and the French Minister for European Relations, M Roland Dumay, emphasised on Saturday at the end of a bilateral ministerial summit in Barcelona that the sinking of the Spanish trawler would not affect the European Community enlargement negotiations, which begin a new round of talks this week.

The attempt to play down the incident contrasted, however, with the opinions of officials of both sides who said it had cast an embarrassing shadow over the Barcelona meeting and would be raised in Luxembourg.

All last week, European Commission representatives of the Ten were locked in debate over how tough the fishing chapter of the membership package should be while everyone now tacitly agrees that the initial proposal - for a 15-year freeze on the current arrangements - must be moderated.

They revised offer allows an eight-to-10-year transition period

## Spain accession, Page 2; Lombard, Page 15

### No to Euratom

The British Government is refusing to allow the European Atomic Energy Community (Euratom) to inspect reprocessing activities at the Sellafield nuclear plant on security grounds.

### E. Germans flee

Two 18-year-old East German workers sealed security installations at the border in Lower Saxony and reached West Germany unharmed.

### New Indian party

Several Indian opposition groups merged to form a political party with the aim of ousting Prime Minister Indira Gandhi's ruling Congress (I) in national elections due to take place by January.

### Priest 'abducted'

Lech Walesa, leader of banned Polish Solidarity trade union, demanded the release of anti-Communist priest Father Jerzy Popieluszko, who the authorities say has been abducted by unknown kidnappers.

### Protesters doused

American satires in Sydney used high-pressure hoses on four women in two clashes today to paint a protest slogan on the side of the visiting U.S. destroyer Cushing.

### Hoxha reappears

Veteran Albanian Communist leader Enver Hoxha, 70, appeared in public for the first time since May at a rally in the national stadium. It had been speculated that he was in poor health.

### Officials shot

Gunmen killed a central Philippine police chief and a town councillor who ignored death threats from the communist New People's Army, the military said.

### Secret extradition

Mario Firmenich, a leader of Argentina's disappeared Montoneros guerrillas, was secretly extradited from Brazil to face charges of murder, attempted murder, kidnapping and extortion.

### Paris bomb

A bomb blast slightly damaged the office of Transunion company Marcel Dassault in Paris. No one was injured and left-wing Action Directe group claimed responsibility.

### François Truffaut

François Truffaut, one of France's leading film makers, died of cancer in Paris aged 52.

### Lauda's title

Austrian Niki Lauda won the world drivers' championship for the third time when he finished second in the Portuguese grand prix at Estoril to his McLaren team-mate and championship rival Alain Prost of France. Lauda totalled 12 points to Prost's 7½.

### Marathon record

Welshman Steve Jones won the America's Marathon in Chicago in a world record time of 2 hrs 8 min 56 sec.

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Technology: French failing in life sciences

Computers in banking: Survey

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OVERSEAS NEWS

UK steps up pressure on Durban fugitives

THE BRITISH government yesterday stepped up pressure on the three anti-apartheid activists sheltering in the British consulate in Durban, denying them visits from relatives and lawyers, and repeating a veiled threat that they must cease political activities or face possible expulsion.

The Foreign Office said in a statement that their continued political activity constituted an abuse of their welcome, and that further "disturbance" by the three "will cause us to review our position immediately."

The three are to be allowed no visitors apart from doctors and normal business at the consulate will virtually halt, with many of its responsibilities transferred to Johannesburg.

Foreign Minister Malcolm Rifkind, speaking in a radio interview later, appeared to be preparing the ground for a possible expulsion.

French bond attack

French opposition leaders strongly condemned over the weekend the French Government's decision to raise the level of tax to be paid by private French holders of 1973 gold-indexed state bonds.

Former President Giscard d'Estaing, M Raymond Barre, his former Prime Minister, and M Jacques Chirac, now mayor of Paris, accused the Government of "contempt" for the commitments entered into by the French state. The opposition claims that the terms on which the 1973 7 per cent state bond was issued included the tax privileges attached to it.

Italian TV go-ahead

An emergency decree by the Italian Government at the weekend legalised private nationwide TV networks, thus ending a situation of deep uncertainty which last week brought the shut-down of several major private TV transmitters.

New Indian party

A new opposition party was formed in India yesterday with Mr Charan Singh, a former Prime Minister, as its leader.

Israeli Cabinet row

The 600th Israeli soldier to be killed in Lebanon died yesterday as the Israeli Cabinet bickered over ways to end Israel's controversial occupation of the southern third of the country.

Community bid to break deadlock

BY QUENTIN PEEL IN STRASBOURG

A NEW effort to break the deadlock over terms for Spanish and Portuguese membership of the European Community will be made by the foreign ministers of the Ten in Luxembourg today—although the most difficult problems have yet to be put on the agenda.

After three abortive negotiating sessions, at which the ministers failed to reach any common position to put to their Spanish and Portuguese counterparts, they now hope to put together at least a "mini-package" to keep the talks moving.

Officials believe there is a real chance of finalising the mini-package, which would include proposals for reducing Spain's high industrial tariffs, control of olive oil production throughout the Community after accession, special measures for accommodating Spanish and Portuguese migrant workers, and a deal to allow continuing Portuguese sugar cane imports.

The most difficult items in the talks are nonetheless still to be resolved within the Community. The farm ministers, also meeting in Luxembourg today, are far from a deal on how to control the huge Community wine surplus before Spain joins and adds to it.

UK blocks inspection of some nuclear activities

BY A SPECIAL CORRESPONDENT

THE BRITISH Government is refusing to allow the European Atomic Energy Community (Euratom) to inspect some of the reprocessing activities carried out at the Sellafield, Cumbria, works of British Nuclear Fuels.

The refusal is on national security grounds because spent fuel from military nuclear reactors is being reprocessed with civil material, the UK public inquiry into the Sizewell B power station has been told.

Walesa demands release of kidnapped priest

SOLIDARITY leader Lech Walesa yesterday demanded the release of an outspokenly anti-communist Roman Catholic priest who has been abducted by unknown kidnappers according to Polish authorities.

Christopher Bohdzicki in Warsaw writes: The incident could give rise to a mounting wave of protest against the authorities who most people hold responsible in one way or another for Father Popieluszko's disappearance.

The refusal is on national security grounds because spent fuel from military nuclear reactors is being reprocessed with civil material, the UK public inquiry into the Sizewell B power station has been told. The inquiry is into the proposals by Britain's Central Electricity Generating Board to build the UK's first pressurised water reactor.

Father Jerzy Popieluszko, who was granted an amnesty recently after being charged with slandering the state in his sermons, disappeared in the town of a 140 miles north-east of Warsaw on Friday. Mr Walesa, speaking from the altar at Popieluszko's church of St Stanislaw in a suburb of the capital, said: "If so much as a hair of Father Jerzy's head is taken, someone will have taken a very great responsibility upon himself... such things should not happen in our country."

Chinese leaders call for sweeping reforms

BY COLINA MACDOUGALL

IN A 16,000-WORD policy statement, China's central committee at the weekend called for sweeping reforms of the urban economy which would revolutionise the country's industry and commerce and overthrow the egalitarian system imposed in the 1950s by Chairman Mao.

The party will hold a special meeting in September next year to endorse economic policy and plans. At this, Deng is likely to drop his remaining opposition.

While agricultural production has rocketed in the last five years as a result of the Deng-inspired 1979 reforms, industrial output has continued to stagnate and wasteful. The document declares that henceforth enterprises will, though working within the state plan, be allowed to plan production, supply, marketing, and budgeting, hire and fire staff, and to some extent set prices.

Wages will be linked with improved enterprise performance, and differences widened to reflect skills and effort. Intellectuals, hitherto the worst-paid of any class in China but potentially the most valuable for modernisation, will be paid more.

Hu Yaobang, party general secretary, called the changes as important as the political revolutions of 1911 and 1949. Following a week-long meeting, the central committee declared that wages, prices, the state planning system and factory management should be liberalised to allow incentives and market forces to stimulate the economy.

The document set no specific timetable for the reforms, though they are likely to be spread over about five years.

Fate of Unesco likely to be decided this week

BY PAUL BETTS IN PARIS

UNESCO'S HEADQUARTERS building behind Napoleon's tomb in Paris is likely to experience more than its usual share of turbulence this week when the fate of two international organisations could well be decided.

The basic idea of the agency was for Open oil-producing countries and Western OECD industrialised states to share the financing of the fund.

But the fund has run out of money, the Opec countries claim that with the slump in oil prices they can no longer pledge as many funds as they did before.

The U.S. is opposed to seeing the industrialised countries footing more than their share of the fund's needs.

The current crucial meeting of the executive board of the United Nations Education, Scientific and Cultural Organisation is expected to end this week, providing important clues to its future. The meeting, which began last month, is one of the last opportunities for a compromise to be hammered out to avoid the U.S. withdrawing from the organisation at the end of the year.

President Francois Mitterrand of France, who invited IPAD to hold the meeting in Paris, will deliver the opening address today on an occasion which could prove to be the last chance of survival for the UN agency. IPAD, whose aim is to fund food projects in poorest countries, was conceived as part of the broad efforts to enhance the so-called north-south dialogue.

Nato plans review of N-weapons strategy

By Bridget Bloom, Defence Correspondent

NATO's defence ministers meeting in Brussels in early December are expected to review the implementation of the alliance's strategy for using nuclear weapons in any future war in Europe.

Reagan and Mondale trade broadsides on foreign policy

BY REGINALD DALE, U.S. EDITOR IN WASHINGTON

PRESIDENT Ronald Reagan and Mr Walter Mondale traded fierce broadsides in advance of their crucial foreign policy debate in Kansas City last night, as new controversies continued to swirl around U.S. actions in Central America and the Middle East.

Mr Reagan, in his weekend radio address, accused his Democratic challenger of being "so weak he ranked right next to George McGovern"—the liberal Democratic presidential candidate overwhelmingly defeated by President Richard Nixon in 1972.

Ministers will formally review the impact of the passing years on their strategic "bible" produced by the military committee in 1967 and labelled MC14/3.

Mr Mondale, facing what was billed as the "biggest political event of his life" was hoping to use the second and final debate to boost his new momentum in the opinion polls and propel himself towards a dramatic upset victory on November 6.

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U.S. to press Britain on cut-price air fares

BY PAUL TAYLOR IN NEW YORK

THE U.S. Civil Aeronautics Board (CAB) will try to persuade the British Government to reverse its decision to allow airlines to charge cut-price transatlantic fares this winter.

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Advertisement for Michelin tires featuring the slogan "One thing leads to another" and images of a Formula One race car and a motorcycle. The text includes: "This year has seen the total domination of Formula One racing by cars shod on Michelin. With Marlboro McLaren as World Constructors' Champions and Niki Lauda as World Champion Driver. But to move radical-tyre technology further down the road, we're going to concentrate on both the international rally and motorcycle circuits. And with the World Rally Constructors' Championship and four extremely demanding World Motorcycle Championships won on our tyres this year, it would seem that we've already gained something of a lead. MICHELIN"

هكذا من الاصل

WORLD TRADE NEWS

# Heseltine dilemma over weapons system deal

# Riyadh university contract cancelled

# Wide range of VCR prices found by consumer groups

BY BRIDGET BLOOM, DEFENCE CORRESPONDENT

MR MICHAEL HESLITINE, Britain's Defence Secretary, faces an acute dilemma over a clash between two of his policies — to introduce more competition into defence contracting and to boost collaboration between British and European defence industries.

The clash has arisen over a contract for the production of key components of the new Multi Launch Rocket System (MLRS) designed for use by Nato armies in Europe against battlefield targets. Mr Heseltine is understood to be considering awarding the contract in Britain, although the weapon system could be obtained more cheaply from West German partners in the collaboration project.

The Defence Secretary's dilemma is compounded because he must seek Treasury approval for the additional funds which would be needed if the contract went to a British company. The Treasury is said to be asking at present for a cut of between £500m and £500m in next year's defence budget.

The MLRS is one of the most

complex and secret of Nato's collaborative weapons projects. Negotiations over the production of the system are believed to have reached a crucial stage, and unless agreement is reached very soon, the matter is likely to be discussed at the Anglo-German summit in early November.

The MLRS is a co-operative venture between the Vought Corporation of the U.S. and defence companies in Britain, West Germany, France and Italy. Production of the weapon system is currently taking place only in the U.S.

In the late 1970s the European governments bought into the U.S. development programme with the aim of later establishing a production line in Europe. The U.S. and European requirements are about equal, at some 340 launchers and nearly 400,000 rockets each. The cost of the U.S. programme until 1990 has been put at some \$4bn.

It was originally intended that the UK, whose army wants MLRS earlier than its European partners, would initially buy the

weapon system from the U.S. But last year Mr Heseltine, partly in the interests of European co-operation, decreed that the British army would buy from the European production line, even if that meant it had to wait longer.

At the same time, in the interests of competition, Mr Heseltine persuaded European governments that the European companies involved should reopen their preliminary production agreement and tender for the component parts of the system.

Those tenders apparently show that the West German bid to build the rockets and their warheads is considerably cheaper than the British bid. The Ministry of Defence refuses to comment, but it is understood that Mr Heseltine would like the Royal Ordnance factories, which are soon to be privatised, to be given a substantial share of the warhead production, even though this would mean seeking additional finance from the Treasury.

While Mr Heseltine makes up his mind, agreement between the partner governments

on precise work sharing between the industries of the four countries is being delayed, as is the ultimate production of the weapon system.

MLRS is to be manufactured by a consortium known as the European Production Group. RFG of West Germany, an affiliate of the aerospace company MBB, is the prime contractor, with Aerospaziale of France, Sias Viscosa of Italy and Hunting Engineering of the UK.

The four governments long ago agreed in broad terms that work should be shared according to the number of weapons systems each country buys, but the precise work sharing formula will also give each nation a "fair" share of the technology involved.

In the first phase, until about 1990, the UK requirement is for 48 launchers against 202 for West Germany, 55 for France, and 20 for Italy, with each buying several thousand rockets. It seems likely that no real progress will be made on the precise divisions of work unless or until Defence Ministers or Prime Ministers of

By Finn Barr in Riyadh and Michael Field in London

THE KING SAUD University in Riyadh has formally cancelled the \$136m housing contract being executed by Carlson Al Saudia. The Saudi-American contractor, owned mainly by Prince Saud bin Fahd, a son of the King, and the Carlson Group of Boston, ceased work at the end of August, after a long dispute over payment with the university authorities. At the same time the foreign management of the company left the Kingdom.

Complications have arisen over the fact that officially the contract was not with Carlson but with a small Saudi establishment owned by Mr Ahmed Hamad Sayrafi. This businessman won the original contract with a bid of \$118m and promptly subcontracted it to Carlson for \$105m in accordance with common practice in the Saudi contracting industry. The value of the contract was later raised to \$136m through "change orders," adding a further 42 villas and two primary schools.

It is Sayrafi's contract, rather than Carlson's that the university has cancelled and Sayrafi is saying publicly that it wants the contract back. The company is also concerned that the university may engage another contractor to complete the project and seek to charge Mr Sayrafi's company a large part of the extra cost.

It has been estimated by other contractors that the cost of completing the project may be as high as \$235m. The university authorities are likely at least to try to recover from Mr Sayrafi's company the cost of any remedial work that may be required.

In the past month the university authorities have discussed the resumption of work with the French-American joint venture, Bonygues-Blouin, which is the main contractor on the project, and with the German contractor, Philipp Holzmann. No new contracts have been signed, however.

It is thought that the housing project may be re-tendered in two or three months, but might not be awarded for a year.

BY PAUL CHEESERIGHT IN BRUSSELS

EUROPEAN BUYERS of video cassette recorders (VCRs) are placed at a disadvantage by the fragmentation of the EEC market and the protective wall around it, the European Bureau of Consumer Unions (BEUC) has concluded.

In a commentary on the widely differing prices of VCRs in the various EEC markets, the BEUC charges that private imports are impossible because of national technical differences. It says that an agreement with Japan to hold back imports and lift prices has limited competition.

A survey by the BEUC of prices of VCRs including tax and excise, shows that the best markets for the consumer are the UK, the Netherlands and West Germany and the worst are Denmark and Greece. Different performance standards however hold back buying and selling across national borders.

As examples, the BEUC lists the special cable requirements needed in Belgium and the difference in frequencies between the UK and continental EEC.

The EEC's agreement with Japan on imports limitation has a floor price system which has kept up prices artificially, mainly for the benefit of Philips and Grundig production in the EEC, the BEUC says.

The VCR market in the EEC however has been flatter this year than last. Earlier this month, the Ministry for International Trade and Industry in Tokyo said that in response to higher stocks, Japanese exports would be 10 per cent less in 1984 than the 3.95m units it had been agreed they could sell.

John Wyles in Zurich writes: West European watchmakers are under increasing pressure from cheap imports from the Far East, according to the joint Swiss-European Community Watch Commission.

At a meeting of the commission in Zurich it was said that a total of 60m watches and watch components were imported last year into EEC countries and Switzerland from the Far East, primarily from Hong Kong. Although France was given permission a year ago to limit quartz watch imports from the Far East, import restrictions are now foreseen neither by Brussels nor the Swiss Government.

## WORLD SHIPPING REPORT

### Charterers await oil price news

BY ANDREW FISHER, SHIPPING CORRESPONDENT

TANKER markets, already shaken by the recurrent attacks on shipping in the Gulf and the dire problem of surplus tonnage have been thrown into fresh confusion by last week's oil price cuts.

The long-term hope is that lower oil prices will increase demand and thus lead to more business for tanker owners. But the immediate effect of the cuts by North Sea and Nigerian pro-

ducers was to induce a "wait and see" attitude among charterers.

Inquiry thus weakened while traders awaited the outcome of the price-cutting round to see how far the cost of oil would fall. Not least among their concerns is the reaction of members of the Organisation of Petroleum Exporting Countries.

The result of Opec's deliberations, said E. A. Gibson, the London shipbroker, "will have a very great effect on the immediate future of the tanker trades."

Activity in the Gulf last week was quiet.

Dry cargo rates received a slight lift last week, with Denholm Coates reporting rises for grain shipments from the U.S. Gulf to both Europe and Japan.

### French companies to build fertiliser plant

BY FRANCIS GHILES IN CASABLANCA

TWO FRENCH companies, Technip and Pec Engineering, have signed a contract worth FFr 850m (\$56m) to build what is expected to be the largest fertiliser plant in the world, at Jorf Lesfar, in central Morocco.

When the new plant is completed it will produce 1.6m tons for fertilisers a year, a figure which includes 1m tons of diammonium phosphate (DAP) and 600,000 tons of triple superphosphates (TSP).

The plant will enhance Morocco's growing export capacity: last year the Kingdom sold 14.6m tons of phosphate rock abroad, nearly one-third of the world phosphate trade, and 1.5m tons of phosphoric acid, an increase of 32 per cent over 1982.

Morocco's capacity to produce fertilisers is also increasing quickly and its export income from sales of phosphoric acid and fertilisers is now outstripping what it earns from the export of rock.

### Japanese drug concern to expand abroad

BY CARLA RAPOPORT IN TOKYO

YAMANOUCHI, one of Japan's largest pharmaceutical companies, is planning to build a bulk production site in either Ireland or Puerto Rico, representing the first major overseas investment by a Japanese drug company.

The company said that the move will be to "facilitate strategic overseas expansion," but would not divulge the expected value of the new plant. Investment analysts in Tokyo ex-

pected that it will be worth around \$25m to \$30m and that it will be producing Yamanouchi's new ulcer drug, Famotidine, in addition to other drugs.

Famotidine, a new competitor to Smith-Kline's best-selling ulcer drug Tagamet and Glaxo's fast-growing Zantac, will be launched in the Japanese market early next year. It is expected to be launched in the U.S. in 1986 and will be marketed by Merck of the U.S. The product will be the most significant world-class drug ever to be launched by a Japanese company.

Smith-Kline's Tagamet is currently manufactured in Ireland, leading some observers to expect that Yamanouchi will plump for an Irish plant. A final decision will be made over the next year with production expected to begin in 1986 or 1987.

	RETAIL PRICES (1975 = 100)				% change over previous year
	Aug. '84	July '84	June '84	Aug. '83	
W. Germany	144.0	144.3	144.5	141.6	1.7
France	267.7	266.4	244.8	230.6	7.4
Italy	383.1	382.0	380.8	346.6	10.5
Netherlands	161.7	161.5	161.7	157.5	2.7
Belgium	183.7	183.0	182.0	173.7	5.7
UK	263.1	260.8	261.0	250.7	4.9
U.S.	194.1	193.3	192.7	186.3	4.2
Japan	152.2	153.6	153.3	149.3	1.9

Source: Eurostat

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UK NEWS

HOPES RISE OF END TO VAUXHALL STRIKE

Austin Rover and Jaguar face threat of industrial action

BY ARTHUR SMITH, MIDLANDS CORRESPONDENT

THE BRITISH car industry enters a crucial week today with Vauxhall, the UK subsidiary of General Motors of the U.S., on strike and mass meetings called at Austin Rover, the state-owned BL subsidiary, and at Jaguar to back union recommendations for industrial action.

The key test of militancy will come at Jaguar Cars, the recently privatised company which was formerly part of BL. The Jaguar management last night was taking a hard line. No improvement was possible, it said, on its "very generous" two-year deal which would increase the basic pay of an average production worker by more than £25 a week to £142.

Union leaders have rejected the offer and called for industrial action from November 1. Jaguar shop stewards (factory union officials) will meet today and tomorrow to draw up recommendations for mass meetings of the 7,000 workers. The meetings are scheduled for Wednesday.

An all-out strike seems to be the shop stewards' favoured option - "an old fashioned Wild West shoot-out," as one union leader described it last night.

Voting by the Jaguar workers at their Coventry and Birmingham

plants will offer an important pointer for Austin Rover, which seems to be heading for another confrontation with its workers, also concentrated in the recession-hit West Midlands.

Shop stewards representing Austin Rover's 28,000 manual workers meet in Coventry today and are expected to endorse their leaders' recommendation for industrial action. Support will then be sought from mass meetings.

Austin Rover union leaders clearly hope that armed with the threat of disruption, albeit unspecified they can extract concessions from the company in further talks due to take place next Monday.

Austin Rover has offered a 4.7 per cent increase in basic pay, plus consolidation of £375 of the productivity-related incentive scheme in each of the next two years. Jaguar has offered just over 7 per cent, plus consolidation.

At Vauxhall, hopes are rising for an early end to a pay strike which began nearly two weeks ago. The dispute is now costing the company £8m a day in lost production and another £1.5m due to a block at British ports on the import of cars by the General Motors parent. The

block has been imposed during the strike by the Transport and General Workers' union.

Leaders of the 2,300 engineering union workers at Vauxhall's Ellesmere Port plant, Liverpool, will today urge acceptance of the company's improved pay offer.

Their recommendation will put pressure to follow suit over the next few days upon the transport union at Liverpool and the 8,000 striking car workers at Luton, Bedfordshire.

Vauxhall's offer, in an industry where pay negotiators are constantly looking over their shoulders, will set the pace for its competitors.

The complex deal over 12 months provides for a 6 per cent increase in the £18 basic pay of production workers, plus the consolidation of £2 a week incentive bonus. Under a package to restructure pay grades and introduce greater flexibility in work practices, however, most employees will receive an extra £3 a week and another £3 a week from next May.

Ford, which opened pay negotiations with a 4 per cent pay offer, meets the trade unions again on November 5. Talbot, the UK subsidiary of Peugeot of France, will not review pay until January 1 1985.

Loss of 10,000 jobs feared in petrochemicals

BY LISA WOOD

THE ADVENT of new petrochemical producers on the world market could lead to as many as 10,000 job losses in the UK industry, if urgent action is not taken by the Government, the National Economic Development Office (NEDO) warns today.

The warning from NEDO's chemical economic development committee (EDC) comes with the publication of a policy statement on new petrochemical producers - such as Saudi Arabia and Canada - and their potential impact on Europe and the UK in the next six years.

Recommendations in the statement sent to both the Treasury and the Department of Industry, include reductions in North Sea feedstock taxes as well as more pressure on other European producers which have not cut capacity as much as Britain.

The statement describes how new producers will be able to make a wider range of petrochemicals - from methanol to high-density polyethylene - more cheaply than Western European suppliers. This was because of low cost feedstocks - ethane gas, for example, being barrel-off at present in Saudi Arabia - and political decisions over price.

New producers' exports, said the statement, would affect European producers most significantly in their export markets and so kill any possibility of reducing a 15-20 per cent over-capacity in the industry.

In Britain, where much of the European burden of cutting capacity had occurred, up to 20 per cent of the existing 50,000 jobs in the industry could be lost if government action was not taken.

"It is a complicated political and controversial area," said Professor Gordon Beveridge, a member of the EDC, in discussing the report. "But the choices are few and stark and action has to be taken now."

The statement recommended that the Government cut North Sea feedstock costs through amendments to the application of petroleum revenue tax. Naphtha, used to make plastics, is sold on the open market and subject to ordinary oil taxes.

Prof Beveridge said: "We are not looking for a hand-out." The industry supported other jobs on a ratio of 1:10 and had a positive contribution to the balance of payments of about £180m last year.

Protectionism, through tariffs, was a last resort, Prof Beveridge said. The statement called for discussions between the EEC and new producers on voluntary restraint over quantities and prices.

Britain, the statement said, had borne much of the burden of Europe's petrochemical capacity reduction. In contrast France and Italy had failed to carry their fair share.

In Copenhagen today, Mr Roger Lyons, national officer of the Association of Technical and Managerial Staffs, will tell a meeting of European chemical unions that "firm" action must be taken to save the UK petrochemical sector from "this predatory onslaught" from new producers.

The new petrochemical producers and their perspective impact on Europe and the UK. Chemicals EDC, NEDO, Millbank Tower, London SW1.

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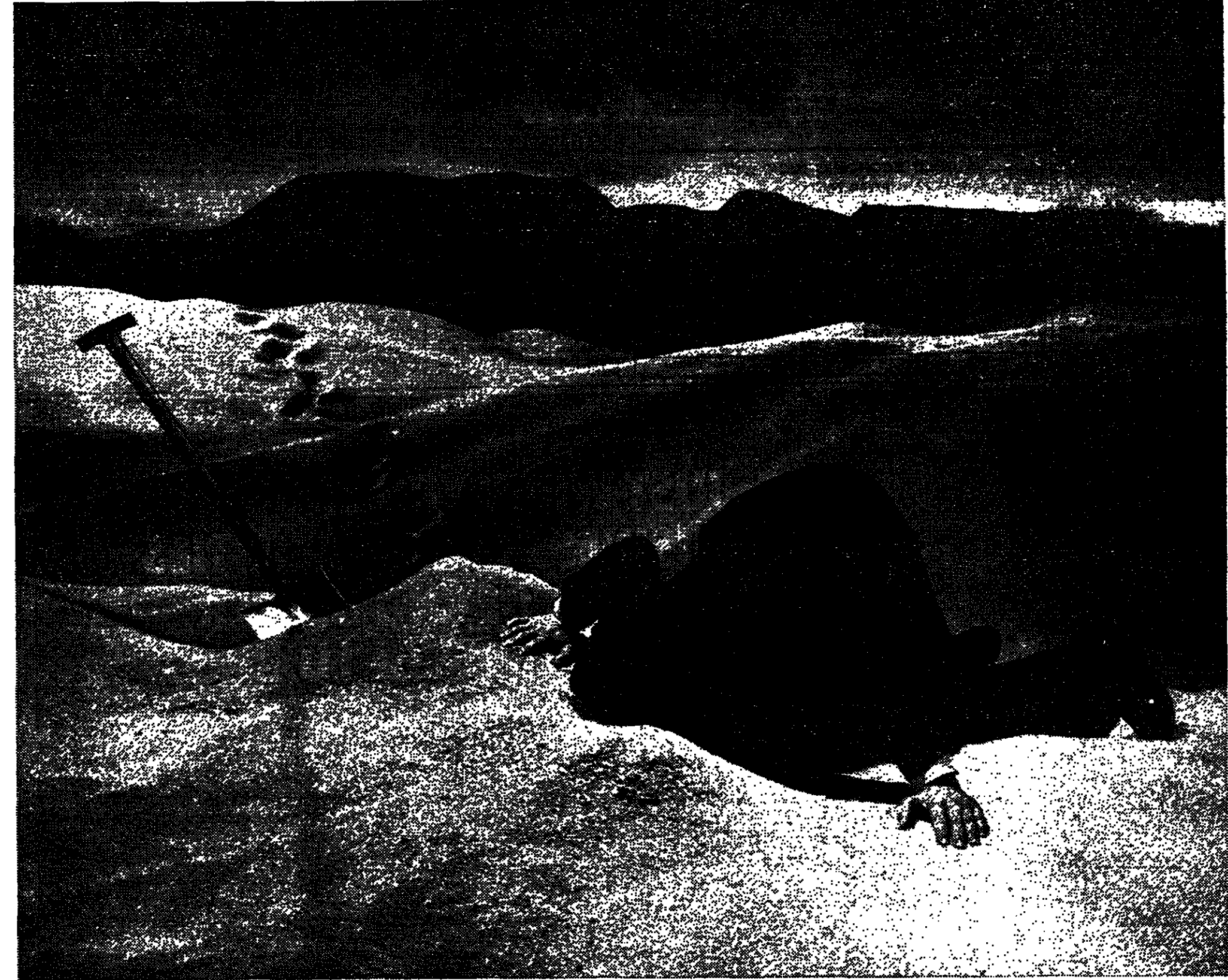
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Treasury concerned by Bank rescue operation

BY PETER RIDDELL, POLITICAL EDITOR

CONSIDERABLE friction has developed between the Treasury and the Bank of England over the rescue of Johnnie Mathiey Bankers at the beginning of this month.

Treasury ministers have made known their reservations about the Bank's handling both of the events leading up to JMB's collapse and of the rescue itself.

It is seen as significant that Sir Nigel Lawson, Chancellor of the Exchequer, made a somewhat sharp reference to the affair in his Mansion House speech in London last Thursday. He said it "illustrated both how quickly problems can arise and the hazards of ill-judged diversification. There are still issues to be pondered on here."

The view in the Treasury is that clear weaknesses have been highlighted in the Bank's supervision arrangements.

Ministers feel that the rescue was hounded on them without full consideration of the alternatives. Bank officials, however, kept the Treasury informed of developments at the weekend of the rescue and, in any case, government permission was not required for a banking operation which should not involve the expenditure of exchequer funds.

Treasury ministers remain sceptical about why it was necessary for the Bank to mount such an operation, given the government's general willingness to allow industrial concerns to go under if they make large commercial errors.

Editorial comment, Page 14

**TA TRIUMPH ADLER**

THE U.S.A. is the world's most competitive market for micros. Which leading European computer company achieved most of its turnover there last year?

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**ANNOUNCEMENT TO SHAREHOLDERS**

Further to the announcement on 19 September 1984, agreement has now been reached whereby with effect from 1 November 1984 the Zimbabwe Mining Development Corporation ("ZMDC") will acquire all Messina's mining interests in Zimbabwe for a consideration price of 225.5 million. The proceeds will be used to acquire 4% Government bonds which, together with the interest, will be repayable in 10-year periods in equal annual instalments over a period of six years.

Messina's mining interests, which are held by a wholly-owned subsidiary 2M Enterprises Limited SA in Luxembourg, comprise:

- 64.75% of the shares in MTD (Manrula) Limited ("MTD")
- 100% of the shares in MTD Management Services Limited which owns the Bar 20 mine
- 100% of the shares in SARI Consolidated Gold Mines (Pvt) Limited
- 100% of the shares in MTD (Sanyati) Limited
- 62% of the shares in Juma Johns (Pvt) Limited
- 62% of the shares in Sanyati Limited which owns the entire above capital of Lonsquendri Smelting and Mining (Pvt) Limited

Messina has agreed to enter into a three year agreement with MTD Management Services Limited whereby Messina will provide certain technical consultancy services to the above-mentioned mines.

As the purchase price was negotiated on a composite basis, the directors of Messina Limited are not aware of the value, if any, placed by ZMDC on the shares in MTD. Furthermore, ZMDC has been advised of the requirements of the Stock Exchange insofar as the MTD minority shareholders are concerned but, at this stage, it is not known whether ZMDC intends to award an offer to the minority shareholders in MTD.

The Harare Stock Exchange, the Johannesburg Stock Exchange and the Stock Exchange, London, has been requested to lift the suspension of the Messina Limited MTD (Manrula) Limited with effect from Monday 22 October 1984.

22 October 1984

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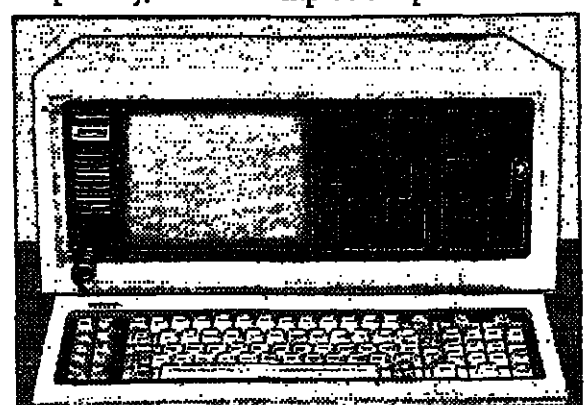
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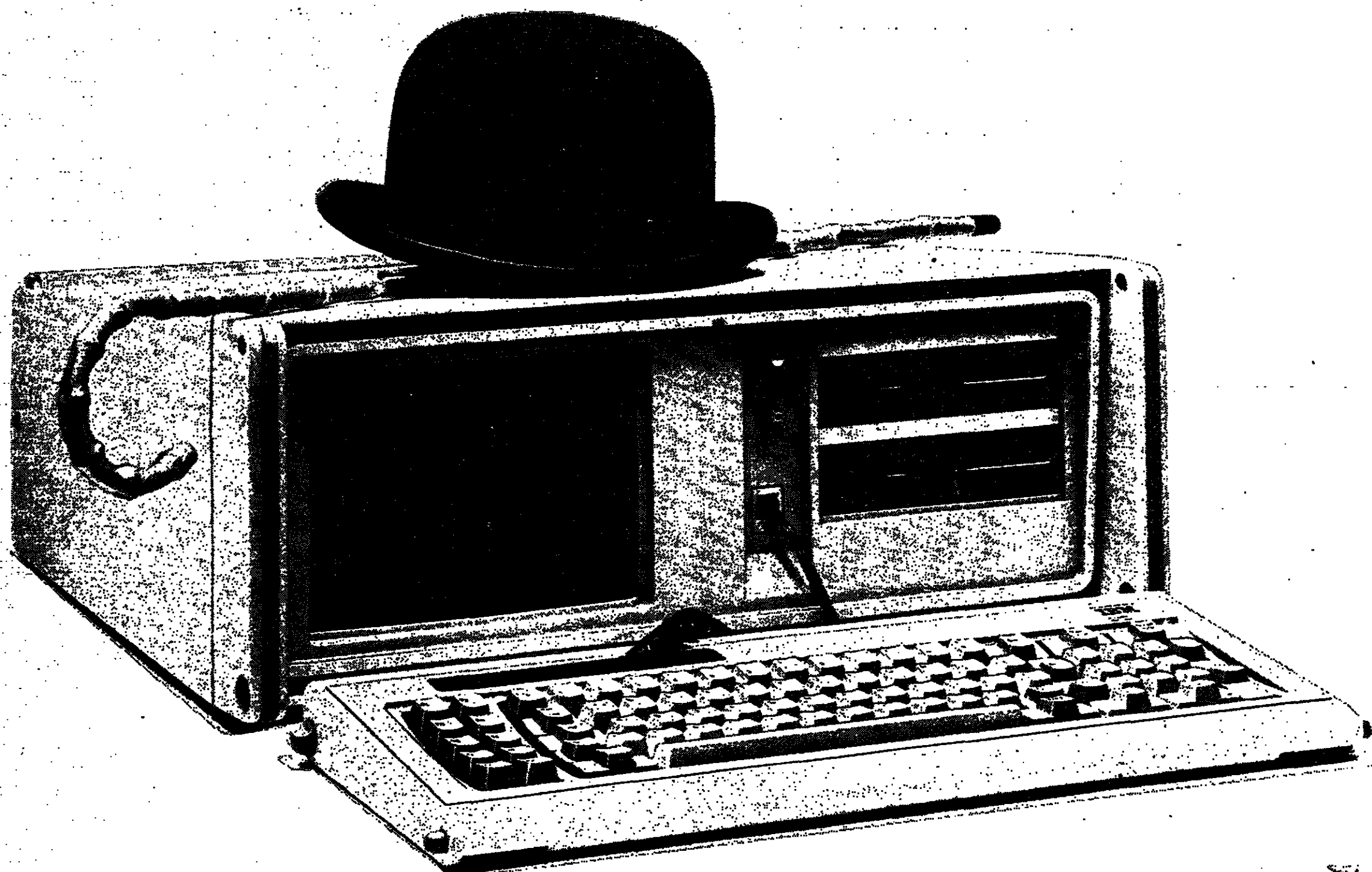
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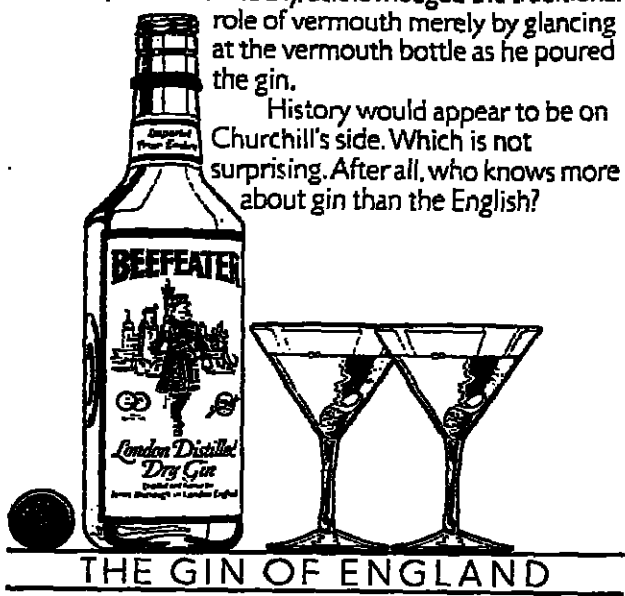


**ROOSEVELT AND CHURCHILL: A TALE OF TWO MARTINIS**

Concerning affairs of state, these two great statesmen were frequently of a single mind. But in the mixing of dry martinis, there was a parting of the ways.

FDR enjoyed his dry martini in the then traditional manner: two parts gin to one part vermouth. Sir Winston, his friend and ally, acknowledged the traditional role of vermouth merely by glancing at the vermouth bottle as he poured the gin.

History would appear to be on Churchill's side. Which is not surprising. After all, who knows more about gin than the English?



**INFORMATION SYSTEMS UNIT CLOSED IN NEW UPHEAVAL**

**GEC dismantles division**

BY GUY DE JONGQUIERES

GENERAL ELECTRIC Company (GEC) has disbanded its information systems division, Gecis, which was formed in 1981 in an attempt to break into fast-moving information technology markets such as electronic office automation.

Gecis's four operating units, which had combined annual turnover of more than £150m, have been split up and parcelled out to other parts of GEC. The units comprise: communications equipment manufacturing, computers, and the Reliance sales and distribution business.

The reorganisation took place a fortnight ago but was not announced. It follows a succession of other upheavals in GEC's £700m-a-year telecommunications and business systems operations in the past three years, during which numerous management changes have taken place.

According to GEC executives, the dismantling of Gecis has resulted in no job losses and product programmes already under way will continue.

GEC had hoped that Gecis would spearhead an attack on emerging markets where computing and communications converge. The organisation has faced difficult challenges, however, and profit margins on several of its activities have been under pressure.

Reliance found it hard to compete against British Telecom in equipment sales, and production difficulties delayed plans to launch a desktop electronic telephone terminal which was intended to play an important part in Gecis's office automation strategy.

Gecis also recently abandoned plans to try to sell a version of GEC's Monarch small private branch exchange (PABX) in the

U.S. after spending about £2m to adapt the product to U.S. standards.

The disbanding of Gecis is expected to loosen Reliance's close ties with GEC's manufacturing operations and free it to buy more of the equipment it sells from outside suppliers.

In the past two years BT has won many more orders than Reliance for large PABXs, which GEC makes under licence from Canada's Northern Telecom. Reliance is also unable to distribute the successful Monarch PABX made by GEC because BT holds the exclusive UK marketing rights.

Mr Martin Jay, who was appointed Gecis managing director last December, will continue to supervise Reliance as well as to run GEC's electronic valve businesses. Gecis's computer unit has become part of GEC Avionics.

**Building society links with brokers**

By Charles Batchelor

THE NOTTINGHAM Building Society, which has 200,000 customers, has linked with stockbrokers Vickers de Costa to allow users of the society's Homelink electronic banking services to buy and sell shares through their Homelink terminals.

Homelink customers will be able to trade as little as £300 worth of shares. Instructions to buy or sell may be sent to Vickers at any time for action the same day or as soon as dealing reopens.

Payment for shares is made by electronic funds transfer using the Homelink terminal, while any gains are credited to the investors' Nottingham account. The dealing service will be backed by information on screen on share prices, updated three times a day.

Mr John Webster, managing director of the Nottingham society, said: "This is one more link in the chain we have been working on for the past year to provide the one-stop financial supermarket."

For Vickers - which plans to merge with stockbrokers Scrimgeour Keay-Gee in a new group in which Citicorp, the largest U.S. bank, will take a 29.9 per cent holding - the Homelink tie-up is intended to reinforce its commitment to private client services.

The link with Vickers is not exclusive and other stockbrokers might be brought into the scheme later, said Mr Mike Fitzsimons, assistant general manager of the society.

Customers with the Nottingham society or with the Bank of Scotland, which participates in the service, may check their building society or bank accounts on the screen, arrange payment of household bills or make purchases from participating retailers.

**Retail sales set to continue aiding recovery**

BY MAX WILKINSON, ECONOMIC CORRESPONDENT

SHOPPERS are likely to continue the spending spree which started two years ago, the latest Confederation of British Industry (CBI) survey of the retail industry suggests.

The results of the September survey, published today, show that retailers expected buoyant sales this month after a brisk trade last month.

The survey, based on replies from 582 companies, will be welcomed by ministers who have been worried in recent weeks by the unexpectedly sharp rise in unemployment and suggestions that the economic recovery might soon be running out of steam.

The survey suggests that consumer spending will continue to support economic recovery for the time being at least, while investment and exports begin to pick up.

Mr John Seligson, chairman of the CBI's distributive trades survey panel, said yesterday: "There are no signs that retail sales growth is coming to an end. Retailers in general are experiencing good sales, despite the effects of the miners' strike."

During the summer the CBI/FT

survey gave a consistently more optimistic picture than official figures which suggested that retail sales were flatlining.

The latest official figures for September, provisionally show a sharp rise in sales volume and bring the official data more into line with the trend suggested by the survey.

Government figures for manufacturing output continue to give a rather depressing picture and suggest that production has been almost flat since the beginning of the year.

The hope in Whitehall must be that a pre-Christmas surge in sales will be reflected in higher manufacturing production and eventually help to stimulate the creation of jobs.

The retailing survey showed that 70 per cent of companies interviewed expected their sales volume in October to be higher than last October.

Wholesalers experienced a small increase in sales volume in September than they had been expecting and the survey suggests some further slowing down in October.

**Truck output doubled at Seddon Atkinson**

BY KENNETH GOODING, MOTOR INDUSTRY CORRESPONDENT

SEDDON Atkinson, the UK heavy truck producer, has doubled output in the last 12 months and is now "marginally profitable", said Mr Carl Levy, the company's chairman.

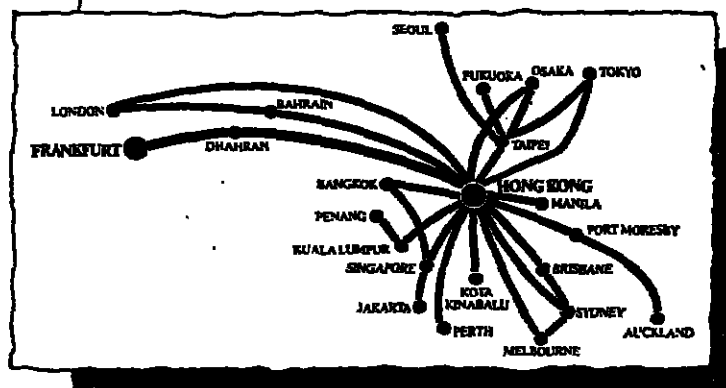
Output is running at two vehicles a day - against only five at this time last year - or about 2,200 a year. This level of production gives the company a market share of roughly 10 per cent for trucks of 15 tonnes and over.

would take three or four years for Seddon to regain its former 15 per cent market share.

During the deep recession in UK truck demand and the hiatus caused by International Harvester's decision to sell Seddon off, the company reduced its capacity by half and its workforce once 1,836, by two-thirds.

Seddon was acquired in March this year by Enasa, the state-owned Spanish group.

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UK NEWS

Lisa Wood reports on a product set to double its sales in a year

Hot market for microwave ovens

ONE IN 10 of British households is likely to have a microwave oven by the end of this year, a 100 per cent growth in 12 months.

Britain is the third largest market in the world for microwaves, after the U.S. and Japan, with the industry forecasting strong growth until 1986, when sales might level off at about 1.2m units a year.

It is a growth sector mirrored in the domestic appliances sector with sales growing from about 15,000 units in 1976 to a predicted 1m units this year, worth about £250m at retail prices.

Four companies will be manufacturing microwaves in Britain by the end of 1984, with manufacturers hoping that that might provide a spread into the relatively unpenetrated European continental market.

TI Creds, one of the UK's largest domestic appliance manufacturers, announced last week that it had reached agreement with Hitachi of Japan to make microwave ovens under licence. Toshiba of Japan is itself to start manufacture in Plymouth, South-west England, this year, as are Litton of the U.S. and Zanussi in a joint operation to be based in the North-east of England.

The only previous domestic manufacturer was Thorn EMI, which made the ovens in an agreement with Sharp of Japan.

"Microwaves are the big growth market," said Mr Jim Collis, direc-

tor general of the Association of Manufacturers of Domestic and Electrical Appliances (Amdea).

"Last year there was some indication that sales of around 550,000 were held down by lack of product, but this year manufacturers are confident of meeting demand. With the market developing so fast in the UK, it ought to be an opportunity for those companies to get into European markets."

Domestic sales of microwave ovens started to grow in Britain in the mid-1970s, with strong growth until 1978. Then a television report started a scare by linking microwaves with possible damage to health.

The major marketing effort in the years immediately following 1978 concentrated upon restoring the safety reputation of microwave cooking," said a recent survey by Euromonitor, a market research organisation. Since then, the report said, marketing moved to informing the public on how to use the ovens.

Mrs Jenny Webb, senior home economist at the Electricity Council, said: "In the early days, most of the manufacturers talked about the benefits of microwaves in thawing and reheating foods. We thought that, from a British point of view, there were more uses than that, for they could be used as an adjunct to normal home cooking."

"There is no one reason I can give for the growth in usage of microwaves," Mrs Webb said. "A micro-

wave is a clean appliance, with only the food being heated and not the whole oven and none of us likes cleaning the oven. Dishes can be of any material, except metal, so food can be prepared and served on the same plate. It is also convenient as it can be plugged in anywhere."

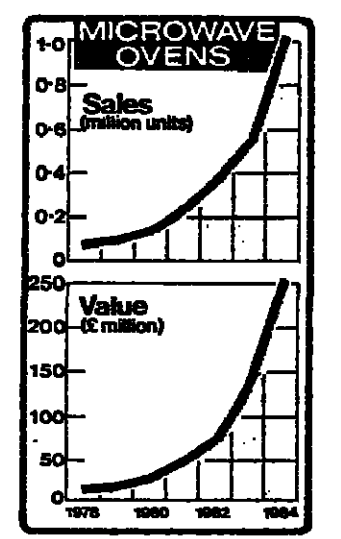
The microwave will not displace the conventional cooker, according to Mrs Webb. Her view is reflected in the industry. Many manufacturers or importers are also involved in the £370m traditional cooker market.

"The microwave is a very useful addition to the home and will not replace the traditional cooker in the foreseeable future," said Mr Terry Green, managing director of Electrolux Microwaves (Tappan International Sales).

Mr Green, who is also chairman of the Amdea microwave section, said there was concern about when the market would become saturated. Until now, however, the marketplace had absorbed all new products.

This company, Tappan UK, has been importing microwaves into the UK since 1975 from its U.S. parent, which became part of the Electrolux group in 1979. Recently Electrolux launched its first microwave under its own brand name, the Electrolux Mealmaker.

The trend towards healthy eating in Britain is gathering momentum. Consumption of poultry, skimmed



milk and brown bread all rose in the second quarter of 1984 at the expense of red meats, ordinary milk and white bread, Andrew Gowers writes. Those are the main results of the Ministry of Agriculture's latest national food survey, published today. Beef and veal consumption has declined to its lowest level for more than 10 years. The consumption of poultry is at a record level, and the eating of brown and wholemeal bread is at its highest level since the 1950s.

Plea on Heathrow traffic

By Michael Cassell

BRITISH AIRWAYS has told the Government that it should raise the proposed ceiling on the number of aircraft movements at London's Heathrow Airport, due to take effect towards the end of 1985.

When planning permission for Terminal 4 was given in 1979, the Government said that once the new building was operational it proposed to implement a ceiling of 275,000 landings and take-offs a year at Heathrow. The new terminal building should be in use next year.

The Government said its decision would be reviewed "in the light of progress on the prohibition of noisier aircraft and the introduction of quieter aircraft."

Airlines have been pressing for an urgent review of what they see as an arbitrary limit on aircraft movement. British Airways, which accounts for more than 40 per cent of Heathrow's traffic, has now added its considerable weight to the argument.

BA told the Department of Transport that it understood the need to improve the environment around Heathrow but that the likely effect of the proposed traffic ceiling would be negligible. It said, however, that the impact on the airline industry and its customers would be substantial.

The airline is opposed in principle to any artificial restriction of Heathrow's runway capacity but is nevertheless understood to be pressing for a compromise annual traffic figure approaching 300,000.

Since the limit was suggested, BA emphasised, there has been considerable progress in introducing a new generation of quieter jets and the noise effect of permitting unrestricted flights compared with the proposed limit would be "environmentally insignificant."

MPs question EEC role in aircraft order

By William Cochrane

ON the eve of French President Francois Mitterrand's visit to Britain, MPs on both sides of the House of Commons said that they would be putting parliamentary questions this week over the EEC decision to block a £20m order for British aircraft in favour of a French rival.

Leeward Islands Air Transport (LIAT), a small Caribbean airline, wanted to replace its ageing fleet with four British Aerospace 748 turboprops, and asked the EEC Development Fund for aid.

The fund, however, whose portfolio commissioner, M Edgard Pisani, is French - said that the airline could have the money only if it bought the French-built Aerospace ATR-42.

Mr George Youlkes, Labour spokesman on the EEC, spoke of "sinister, behind-the-scenes manoeuvring," and wants Foreign Secretary Sir Geoffrey Howe to raise the matter with President Mitterrand.

Mr Harvey Proctor, a Conservative MP said he would be asking the Government to consider giving the Leeward Islands £20m to enable them to buy the British aircraft, and then to deduct £20m from any British contribution to the EEC Development Fund.

British Aerospace said that LIAT had been customers for 20 years. EEC officials said that LIAT had been told to buy the French aircraft because it was more modern and economical.

This announcement appears as a matter of record only.

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ANNOUNCEMENT OF ADJUSTED CONVERSION PRICE

Pursuant to Clause 6(10) of the Trust Deed dated 15 November 1983, notice is hereby given that the conversion price of the above Bonds has been adjusted from S\$9.25 to S\$8.34 for one share of S\$1.00 each in the The Development Bank of Singapore Ltd (DBS Bank) following the offer of shares by DBS Bank to its shareholders by way of a Rights Issue of one new share of S\$1.00 each at an issue price of S\$4.00 per share for every four shares of S\$1.00 each held by shareholders registered in the Register of Members as at 17 October 1984.

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Data of the Marine Seismic Survey offshore the north and east coasts of Trinidad and Tobago carried out in 1980/1981 will be available for sale from the 15th October 1984, at the Ministry of Energy and Natural Resources, PO Box 96, Port of Spain, Trinidad, West Indies. Telephone 62-38841-6. Telex 22715 MENR WG.

The survey covers approximately 13,000 km of seismic lines, and extends over approximately 24,600 sq. km. The data were migrated and interpreted after undergoing basic processing. Two time horizons are mapped.

Magnetic and gravity surveys as well as water depth maps of the surveyed areas are also included in the package. The acquisition of the data, processing and interpretation was done by Western Geophysical Company. Approximately 75% of the record length is down to 6 sec below sea bed. Purchase price is US\$550,000.

Purchasers of the data will be eligible to bid for offshore exploration and production licences to be offered in the surveyed areas. The bids for offshore exploration and production licences will be accepted up to 23rd March 1985.

Technical personnel of the Ministry of Energy and Natural Resources are available for discussions with company representatives.

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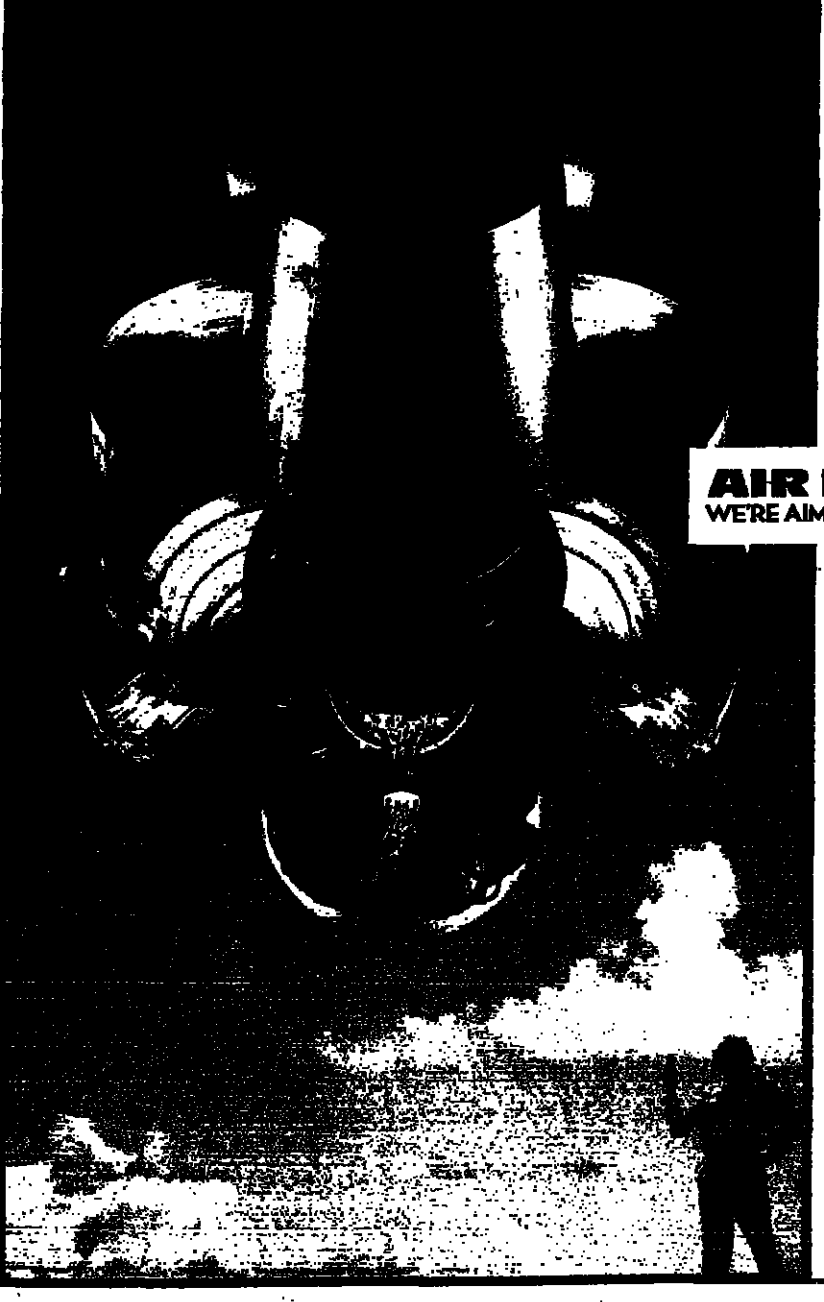
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HIGH STANDARDS



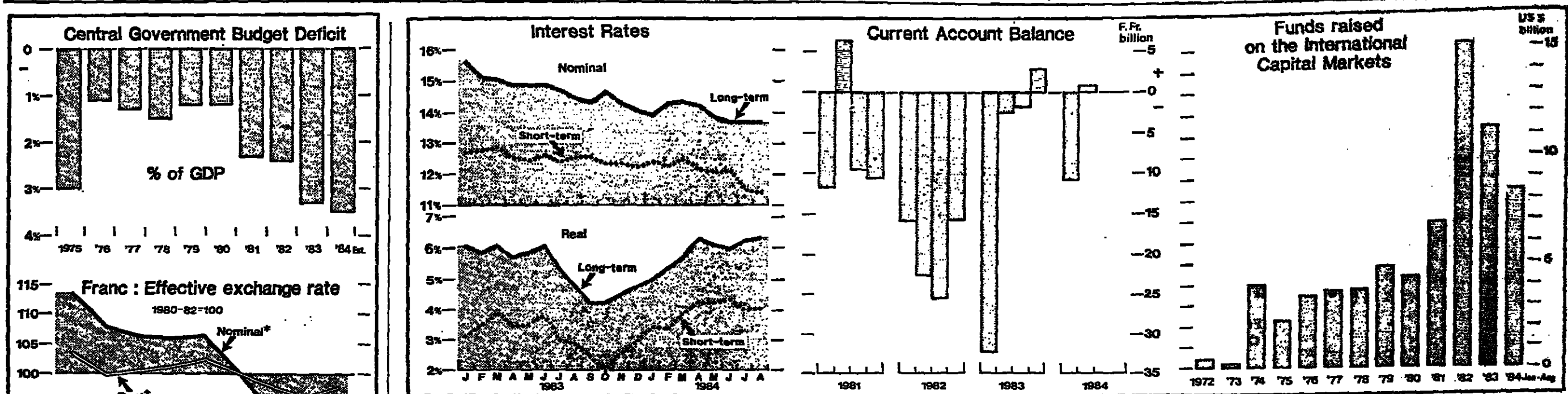
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# STATISTICAL TRENDS: FRANCE



## Growth moving into line with competitors

**AFTER MARGINAL** overall economic growth in 1983, the French economy is heading for growth of a little over 1 per cent in real terms this year. Official forecasts envisage an expansion of 2 per cent in 1985, more in line with the rest of Europe. France's recent economic performance has been out of phase with other industrialised countries. Its economy expanded in 1982 at a time of overall contraction among the Organisation for Economic Co-operation and Development (OECD) nations. This resulted in serious external deficits, as the growth differential pulled in imports. One effect of this expansion was that employment continued to grow in 1982, though not enough to prevent a rise in unemployment. The policy of attempting to expand the French economy in isolation ended in early 1983 and measures were taken to cut the external deficit, reduce public expenditure and curb inflation. The effects of that policy

Year	Registered for more than 1 year (000s)		Registered for more than 2 years (000s)	
	Total	% under 25	Total	% under 25
1980	354.0	25.7	129.1	15.7
1981	423.8	28.0	154.9	18.0
1982	548.4	27.8	192.3	16.3
1983	575.1	27.6	213.2	15.2
1984*	587.0	21.0	230.2	12.7

\* April Source: OECD

change were apparent in a fall in imports and a narrowing of the current account deficit last year, as well as a contraction in real disposable income. The devaluation of the franc helped competitiveness, but fears exist that the improvement in its external position may be due more to France being in a different phase of the cycle than to real improvements in competitiveness. Wage rises have slowed very markedly, with real wages flat or declining. While inflation did slow in 1983, and continues to do so, the rate still compares unfavourably with many other OECD countries. The inflation differential with West Germany which narrowed during the first part of this year, has widened again.

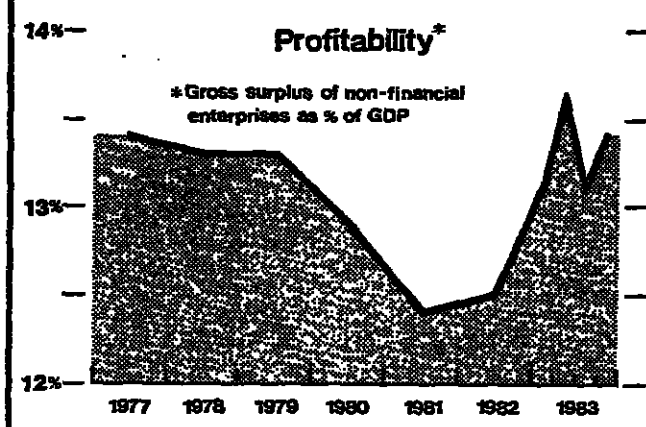
Unemployment is still edging upwards, and there is a consequent rise in the number of long-term unemployed, who are not entitled to full benefits. Changes in benefit entitlement have been a factor in bringing the social security fund into balance recently.

In spite of cuts in public expenditure and a rise in indirect taxation, the budget deficit as a proportion of gross domestic product overshoot its 3 per cent target in 1983 and looks like doing so again this year. The recent budget brought in a cut in direct taxation, which it is hoped will help boost domestic demand in 1985. Real disposable income is set to rise

by about 1½ per cent, assuming the Government's inflation target is met. Investment has been rising this year on the back of better profits. Exports provided the stimulus to which growth there was in 1982, but the rate of growth flattened out at the beginning of this year. Imports have picked up, due to the rise in investment and restocking. This accounts for the slower than

expected improvement in the external balance. The still sizeable current account deficit is one reason for France's continuing international borrowing, which amounted to \$3.5bn in the first eight months of this year, slightly up on the same period last year. For French industry as a whole, the export ratio — exports as a proportion of home

production plus net imports — has grown far more slowly over the last few years. The position of the motor industry is particularly difficult, its export ratio was lower in 1983 than in 1973, while import penetration has risen from 20 to 30 per cent. The ratio of exports to imports for industry as a whole, which rose after the first oil crisis, has subsequently slipped back.



Year	Investment	Exports	Imports	GDP
1977	-0.8	8.6	0.7	3.7
1978	1.5	6.1	5.2	3.8
1979	3.8	10.0	11.5	3.3
1980	2.4	2.2	8.3	1.1
1981	-1.4	2.9	-3.4	0.3
1982	0.5	-3.0	3.6	1.6
1983	-1.7	2.8	-1.9	0.7
1984†	1.1	4.7	3.0	1.3
1985†	2.5	4.1	2.8	2.0

† Official estimates. Source: Eurostat

	France	OECD	EEC
GDP 1967-73	5.8	4.9	5.0
Real growth % 1973-80	2.8	2.5	2.3
1981	1.3	1.3	-0.3
1982	1.9	-0.5	0.5
1983	0.7	2.3	1.0
1984	1.2	4.2	2.2
Inflation % 1967-73	5.9	5.4	5.8
1973-80	11.1	10.4	10.7
1981	13.4	10.5	11.1
1982	11.6	7.8	9.8
1983	9.6	5.3	7.2
1984	7.8	5.2	6.0
Employment % change 1967-73	0.8	1.7	0.3
1973-80	0.2	0.7	-0.1
1981	-0.7	0.2	-1.1
1982	-0.2	-0.5	-1.2
1983	-0.8	0.4	-0.8

Source: OECD

	1970	1973	1980	1981	1982	1983
Intermediate goods	18.2	21.0	29.5	32.4	30.8	32.7
Capital goods	25.6	30.7	44.3	46.8	46.4	48.2
Household appliances	15.1	21.1	17.8	17.0	14.7	18.5
Cars and other land transport	37.7	40.6	46.6	46.4	40.7	39.8
Consumer non-durables	15.0	18.0	19.8	20.5	18.0	19.8
Total, industry	20.6	26.1	32.0	34.5	32.0	33.2

\* Exports/(production + imports - exports) Source: Insee

	1970	1973	1980	1981	1982	1983
Intermediate goods	21.3	25.1	33.4	34.5	36.1	36.2
Capital goods	25.3	33.1	45.4	47.1	49.0	48.5
Household appliances	28.4	33.9	43.3	43.4	48.8	50.0
Cars and other land transport	17.5	20.9	28.6	31.5	32.5	31.1
Consumer non-durables	11.2	15.5	24.5	26.5	26.2	28.9
Total, industry	19.3	24.3	34.1	35.7	36.8	36.7

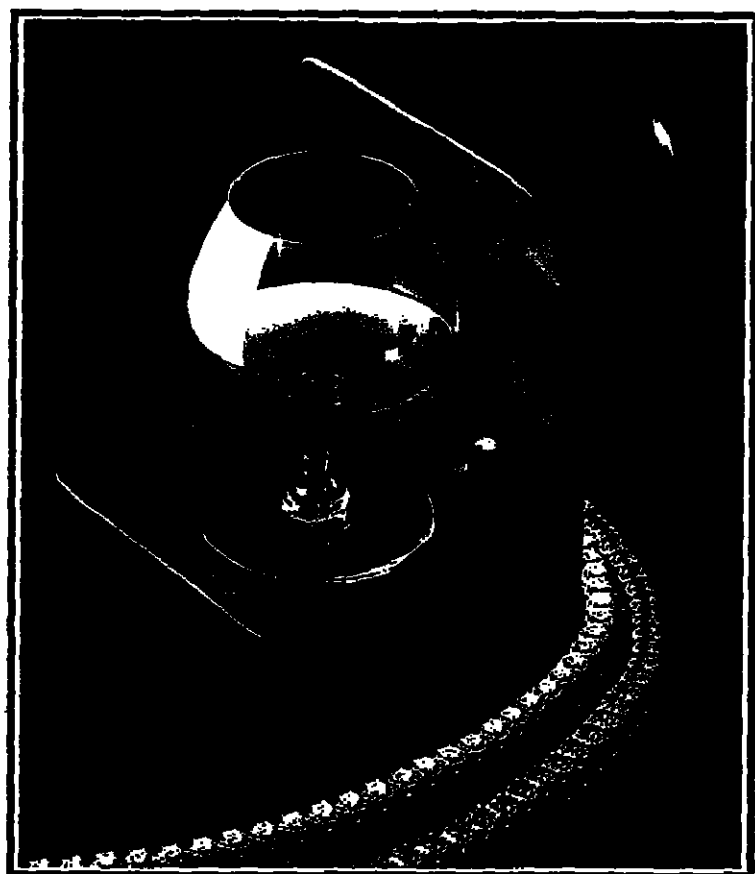
\* Imports/(production + imports - exports) Source: Insee

	W. Germany	Japan	UK	U.S.	EEC
1980	8.4	5.8	-4.2	0.2	-0.7
1981	7.1	8.5	1.5	3.0	0.6
1982	6.6	9.2	2.2	5.8	1.0
1983	6.3	7.9	5.0	6.4	0.9
1984	6.3	7.2	5.8	4.5	1.0
January	6.0	6.1	3.8	4.3	1.0
February	5.5	6.1	2.5	2.9	0.7
March	4.9	5.8	2.7	2.4	0.2
April	5.0	5.8	2.7	2.4	0.2
May	5.0	5.8	2.7	2.4	0.2
June	5.0	5.8	2.8	2.5	0.2
July	5.2	4.9	2.0	2.4	0.2
August	5.7	5.5	2.8	2.2	0.2

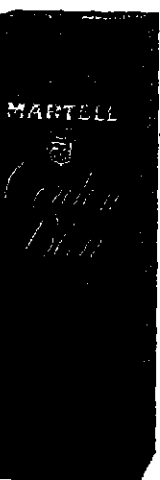
Source: Eurostat

Commentary by Our Economics Staff; data analysis by Financial Times Statistics Unit; charts and graphs by Financial Times Design Department

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# The Economist. A natural successor to The Hotspur

There used to be two kinds of comic you could buy. The ones with pictures and the ones with words.

If, as a boy, you chose The Hotspur instead of the more graphic Beano or Radio Fun you revealed an early affinity for The Economist.

Like The Hotspur we are a journal for readers.

We write with a certain sense of glee and though we have no room for 'Kid McCoy, the bravest boy in Tennessee' or 'Tiger Cubb and Slasher' our cast of characters is equally colourful.

### From The Hotspur 2.10.48.

In the dressing-room the City players were laughing and joking. They had reason to be pleased with themselves. They had just beaten their local rivals, Eastboro' Athletic, by two goals to one.

Jackie had scored the goals, but he knew that Tommy Hamilton, the inside-right, was the brain behind the scores.

Only real football experts, critics such as Gil Talbot, the City manager, who never missed a move, realised that Tommy was a football genius.

He was so unobtrusive, so quick with his little flicks, that the mass of spectators had not tumbled to his skill. He was a football Shadowman.

Mr Scargill, President Reagan, Lord King and Mrs Thatcher make regular appearances in our columns. (Sometimes comic, sometimes not.)

We cover the worlds of politics and business and we do it on a world-wide scale.

Our leader columns actually put forward ideas, solutions and opinions.

They are often on the attack, seldom on the fence.

In a recent issue we had this to say of Mr Ken Livingstone: "The reality is that the charming Mr Livingstone, in his modest way, has turned

### From The Economist 15.9.84.

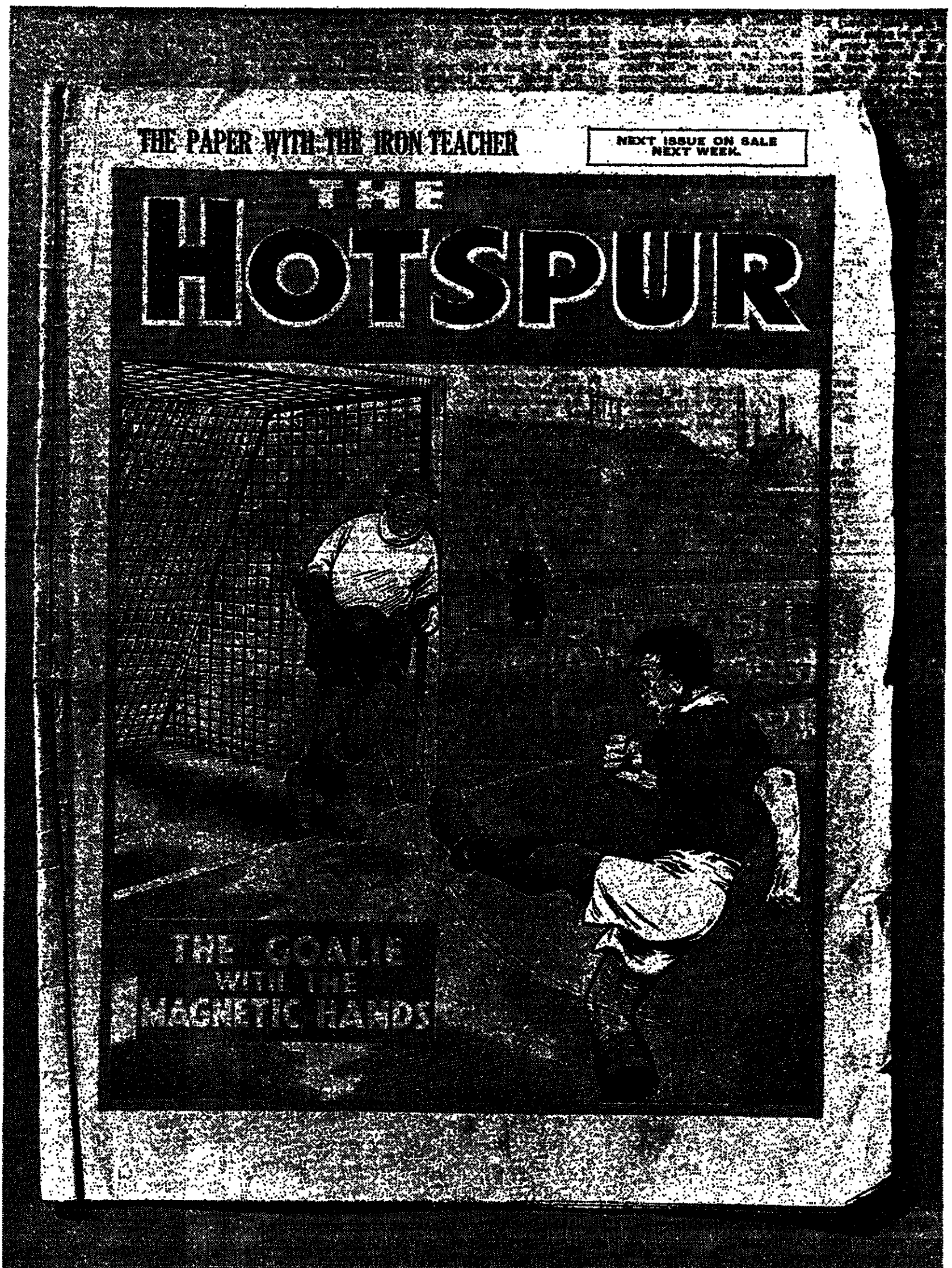
Spain's professional footballers stayed at home last Sunday and thoroughly enjoyed their rest. The fans were sick as parrots.

On September 9th, amateurs and juveniles substituted in league games for the stars. Average attendance plummeted to a tenth of normal, hardly enough to pay for stadium upkeep.

Barcelona's new Scottish signing, Steve Archibald, played safe and stayed on the touchlines, though he is not yet a member of the players' union.

This week the government has been trying to blow the whistle as the players' and clubs' committees argue things out.

It is the third time that Spanish players have gone on strike for better conditions, but this time they were united. A union meeting of more than 600 professional players voted almost unanimously to stay off the pitches.



London's County Hall into Tammany Hall. He deserves to be kicked out of it—even if he won't be."

Later in the same issue we reviewed the hottest toy in America and some rather shady dealings at Lloyd's of London.

For the curious and intelligent reader, The Economist can provide insights not found elsewhere. We have readers in 160 countries and in thousands of boardrooms. Recently, we looked at the top 200 UK companies and listed 109 Chairmen who were happy to acknowledge publicly they were regular readers of The

Economist. Most of the others said they read it but wanted to keep it to themselves.

(We didn't ask them about The Hotspur.)

If you have never read The Economist, we suggest you give it an extended trial.

It is a paper that repays loyalty.

Like an old country house it hides many of its treasures in odd corners.

One thing, however, requires no warning. It has more words than pictures.

As a Hotspur man would you have it any other way?

The Economist



10  
**THE MANAGEMENT PAGE**

EDITED BY CHRISTOPHER LORENZ

National Westminster

# The measured approach pays off

David Lascelles on why the UK clearer looks in better shape than some of its rivals

IF VIRTUE has its reward, look no further than National Westminster.

Ten years ago Britain's second largest bank was almost a casualty of the secondary banking crisis. Five years ago it was being mocked for failing to cash in on the Latin American lending boom. Even today it labours under the epithet of Britain's least exciting bank, lacking the dash of Barclays, the touch of class of Lloyds or the drama (for good and ill) of Midland.

But galling though this judgment might be for NatWest's fiercely proud management in their headquarters in Lombury behind the Bank of England, it's no great cause for concern because the very things that make NatWest a bit monochrome (not helped by its house colours of grey and silver) are turning out to be prize assets.

Today, at a time when big banks are in trouble and fearsome threats hang over the world banking system, NatWest is looking good. Its balance sheet is strong (the stock market lapped up its recent £236m rights issue), profits are rising,

and its Third World loans are among the smallest of any international bank. The service it gives its customers in the UK may be much of a mismatch with the other clearers, but County Bank, its home-grown merchant bank, is one of the City's great success stories, and its biggest overseas venture NatWest USA, is in fine shape after a shaky start.

Philip Wilkinson, 57, the brick-mannered chief executive who keeps his £65m empire on a tight rein, is a firm believer in the virtues of good management, thoroughness and moving in carefully measured steps, as well he might be after 40 years climbing up the NatWest ladder.

"Confidence is the most important thing for a financial institution," he says. "If ever it's impaired, it takes a long time to rebuild."

With such sentiments echoing round the meticulously maintained corridors of NatWest's executive floors (management has stayed in Lombury's period grandeur rather than moving down the road to the bank's spanking new tower), it was not

surprising that it acted with impressive speed to plug the huge £600m hole blown in its balance sheet by the tax changes in last March's Budget. Within weeks NatWest had launched a novel \$500m international bond, following it a short while later with the rights issue. Not only did they repair much of the damage, but left the other clearers who had suffered equally, looking a bit flat-footed.

Both were a tribute to the financial engineering skills of County Bank though Charles Green, the general manager in charge of financial control admits that the bond issue had been planned before the Budget. "The timing was fortuitous, but we were determined to get our balance sheet back into pre-Budget condition as soon as possible." The issue also added dollars to NatWest's capital base and made it that much more impervious to the soaring U.S. currency.

Even so, it was a blow when the U.S. credit rating agencies demoted NatWest from pre-tax triple A status thanks to the Budget, and the bank wants to regain it quickly. "It has not

affected us financially," says Green, "but it's a matter of pride." An acute sensitivity to criticism is spread in all NatWest departments. When the bank recently announced its decision to reopen some branches on Saturday, Philip Gide, the general manager in charge of domestic banking, firmly rejected suggestions that it was merely jumping on the bandwagon set in motion by Barclays two years previously.

The enemy, in the form of the building societies, was at the gates. "They were attacking our marketplace and we were unable to defend it," says Gide, a burly rugby fan. Even so, NatWest is wary about being drawn into what it fears would be a futile war with the societies by bidding up interest rates on savings deposits. "It's a war we would never win," says Gide. "The societies can simply push their higher costs through to their home loan borrowers. We could never do that. We have to compete by offering better service and accessibility."

Like all the clearing banks, NatWest is slowly trying to make its customers pay directly for the services they receive, rather than have them subsidised by non-interest bearing current accounts. But bank charges are a fannable subject, and NatWest was stung by a recent Whitch, the consumer magazine, finding that it gave its customers a bad deal. There are signs that NatWest may actually forego its annual increase in bank charges this year.

But to offset that, NatWest needs to maintain its war on costs. Even though it is trying to rein in the growth of its huge 3,250 branch network (one of the largest of any commercial bank in the world), staff in the domestic banking division has grown nearly 10 per cent to 54,000 since 1980, where NatWest now hopes it will plateau.

Part of that growth came from NatWest Home Loans, its three-year-old mortgage-making subsidiary which has spearheaded the clearer's counter-attack on the building society market and now has a book of some £2.6bn. Ironically, the company is falling far behind its goal of making another fifth of home loans this year

(it blames weak demand; poor marketing may be another reason). But it has the potential for cross-selling other NatWest services, like insurance. Last year, NatWest's life insurance broking business made more money than Commercial Union, the UK insurance giant.

At least the Lombury management has not been distracted by massive problems overseas, like its competitors. When NatWest started expanding abroad in the early 1970s it decided to go for the corporate rather than sovereign loan market, an unimpressive strategy at the time but—as things have turned out—very wise.

"We lent more to the likes of Volkswagen and Ford than to foreign governments," says Ron Bennie, who runs the international division. Not that NatWest's Third World exposure is negligible (it has £250m out to Mexico and slightly less to Brazil) and the heavy provisions it made against shaky foreign loans cut international profits sharply last year from 35 per cent of the group's total to only 28 per cent. With more provisions in view, this share is unlikely to rise next year. But four-fifths of NatWest's foreign business is in industrialised countries belonging to the OECD, a pattern it wants to keep.

"Lloyds has nearly fifth out to each of these countries," says Bennie. "NatWest's biggest target abroad is the U.S. where, Bennie says, "60 per cent of the world's corporate decisions are made." The National Bank of North America, a second rank New York bank which NatWest bought for \$500m in 1979, proved costly to start with because its balance sheet had to be cleaned out and sweeping improvements made. But with a new American management, and renamed NatWest USA, profits are rising (up 45 per cent last year to \$55m), though Bennie is still not satisfied.

"We don't expect to be like Citibank because we're not in that league. But we'd like to match our peer group." He has his sights on medium size quality banks, like Irving Trust and Marine Midland (the Hongkong and Shanghai Bank's U.S. subsidiary) which earn a return of some 0.50 per cent after tax



Philip Wilkinson: "Confidence is the most important thing for a financial institution... it takes a long time to rebuild it"

on their assets. Last year, NatWest USA made 0.36 per cent, and is aiming for 0.50 per cent.

It begs comparison with Midland Bank's disastrous experiences with the loss-making Crocker Bank in California. "Touch wood, I couldn't see a Crocker happening here," said one top NatWest man. "It's just not our style to relinquish that amount of control." Apart from owning NatWest USA 100 per cent (Midland currently has 57 per cent of Crocker), NatWest controlled it from the start and put three London-based directors on its 15-member board ("and they really attend each meeting"). All the biggest financial strings are also pulled—ultimately—in London.

Even so, Crocker was a nasty shock which affected the standing of all British banks in the U.S. and Jeff Benson, a NatWest deputy chairman, was careful to describe the U.S. scene in a recent speech as "exciting, full of opportunities, but not without risk." NatWest likes to think of its U.S. venture as illustrating the ambitious but realistic goals it sets itself—and what can be achieved by people who may not be glamorous international

bankers but know NatWest inside out. "Half of us worked here as lads together," says Bennie of the dozen or so men who hold the reins of power and go off to a country house for two or three days each year for think sessions.

But the "salt of the earth" mentality which gives NatWest its solidness is being tempered by greater specialised professionalism. Tom Frost, a 51-year-old Lancastrian who won his spurs getting NatWest USA off the ground, runs the business development division which has hired marketing, media and research experts to sharpen NatWest's image of the ground, run the business development division and peer into the future.

Frost, who is widely tipped as the next chief executive, talks of the "sea change" in banking and the need for more aggressive marketing techniques and new delivery systems. But, a true NatWester, he lays equal stress on management's responsibility to preserve and handle it prudently in order to preserve customers' confidence. NatWest may have taken some time to convince people that it has a successful formula. And it seems in no hurry to change it.

## Aiming to be an all-round primary dealer

RELATED Banking Services is a surname name for the divisions of NatWest where some of the most exciting changes are taking place. It includes Lombard North Central, the UK's largest finance house, and Centre-File, a leading computer firm that specialises in payroll and stockbroker services.

But the most glamorous component is County Bank which, apart from contesting the view that clearing banks cannot handle merchant banking, is stage-managing NatWest's role in the City revolution.

John Flastow, who runs it says NatWest wants to be "an all-round primary dealer" in the evolving securities markets, building on Fielding Newson-Smith, the stockbrokers, and Biagood Bishop, the jobbing firm which it has lined up to buy

"By the standards of some recent City deals, NatWest's venture is quite modest (probably less than \$50m compared to several times that figure for Barclays) and Charles Villiers, the County Bank chairman, describes it as the "minimum critical mass" needed to get going. But it reflects NatWest's typical caution, and if all goes well, more capital can always be pumped in to enlarge it.

"We expect it to take a lot of capital," says Flastow. "We don't know how much, but we think we have access to enough."

Nobody denies the venture is fraught with some uncertainty. Flastow says time will prove NatWest right or wrong, but it must have a financial market presence in all the major integrating the vastly different cultures (and pay

scales) of jobbers, brokers and bankers is a delicate task, and people at the top of NatWest say the reins may have to be loosened slightly to accommodate them. "We don't want to institutionalise a creative team," says Mr Flastow.

But NatWest also has something to offer its new partners. Donald Macpherson senior partner-elect of Fieldings, said they chose to go with the clearing bank because they wanted "clarity" in the new markets, and believed that a broking-jobbing-banking trio was the right course.

Ed Fuxley of Biagoods concurs: "There are overseas brokers moving into this market who could crush us by sheer weight of money. We want a lot of capital behind us. We won't necessarily have to use it, but it's nice to know it's there."



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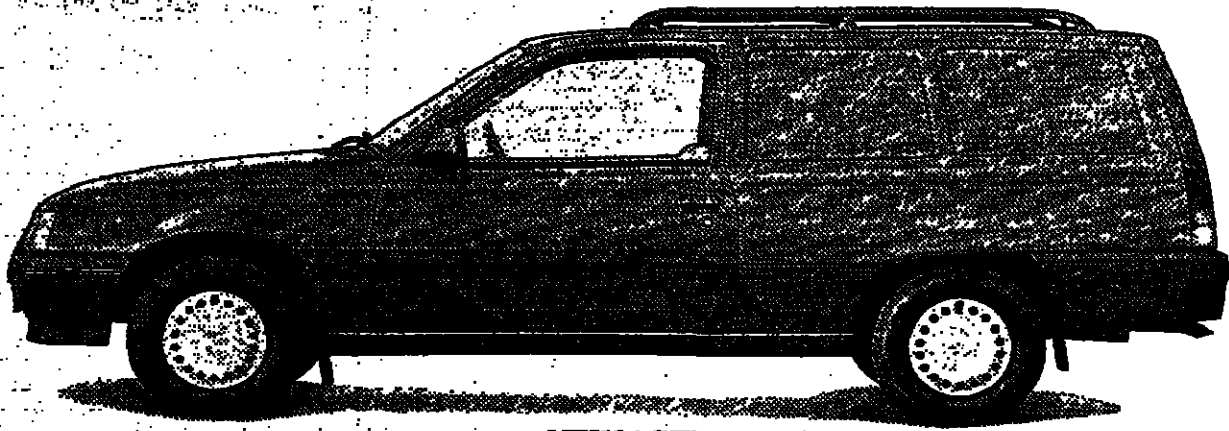
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strike. Mr McNestry says...

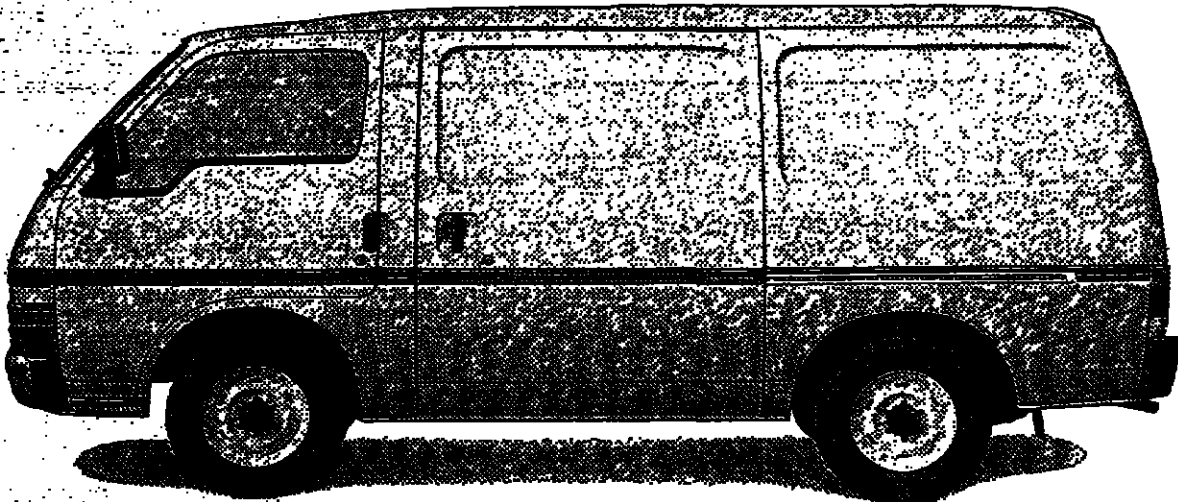
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# OTHERS ANNOUNCE A NEW MODEL. BEDFORD ANNOUNCE A NEW RANGE.



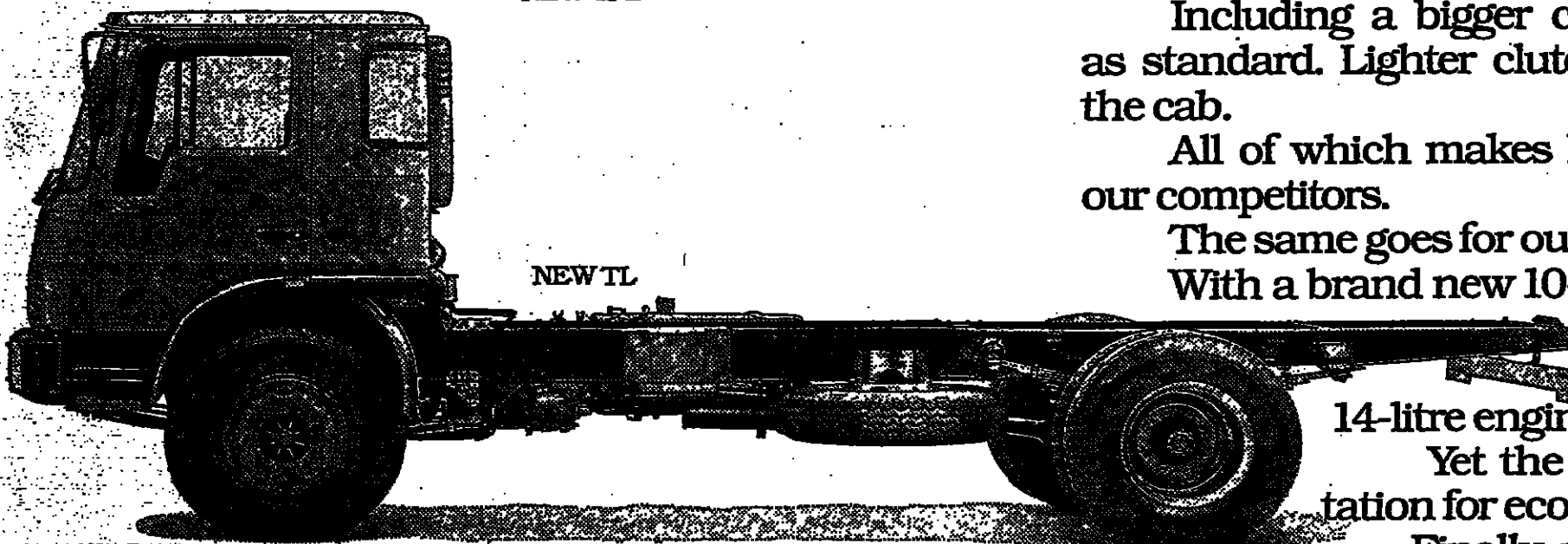
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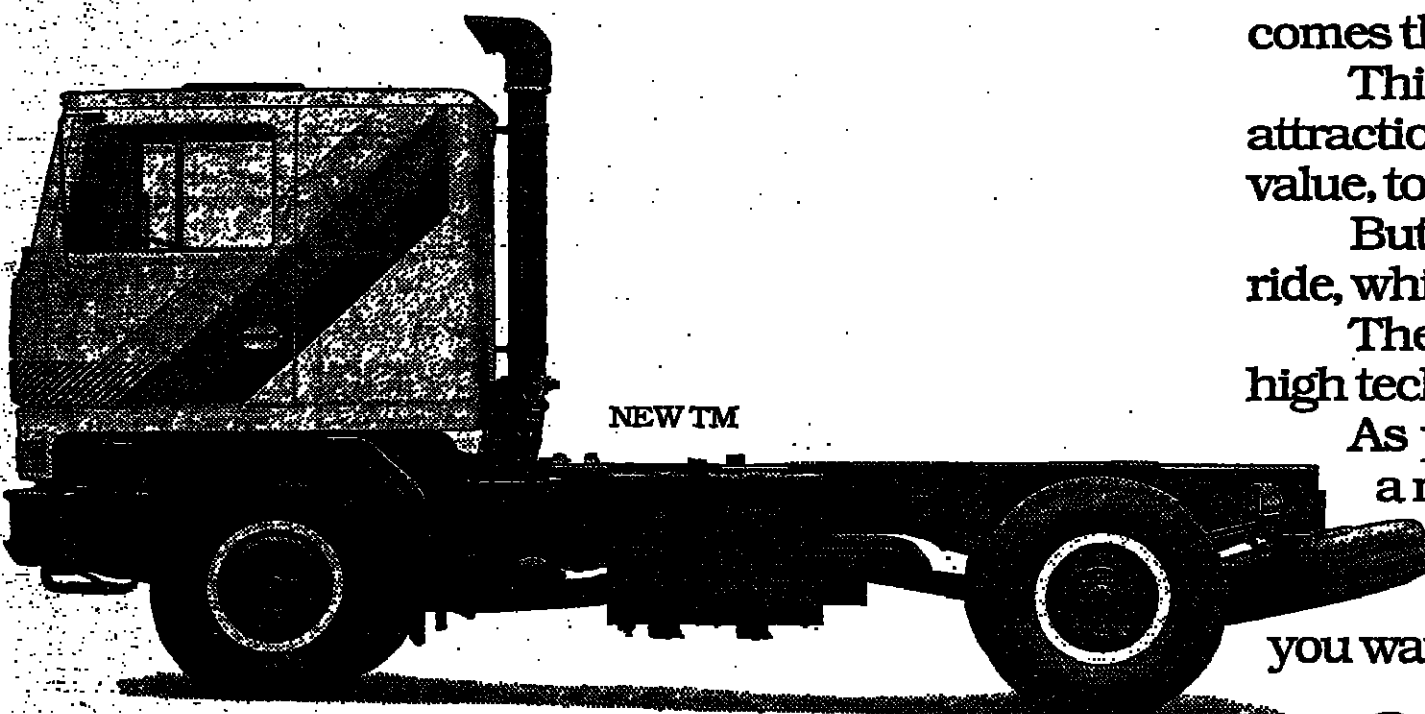
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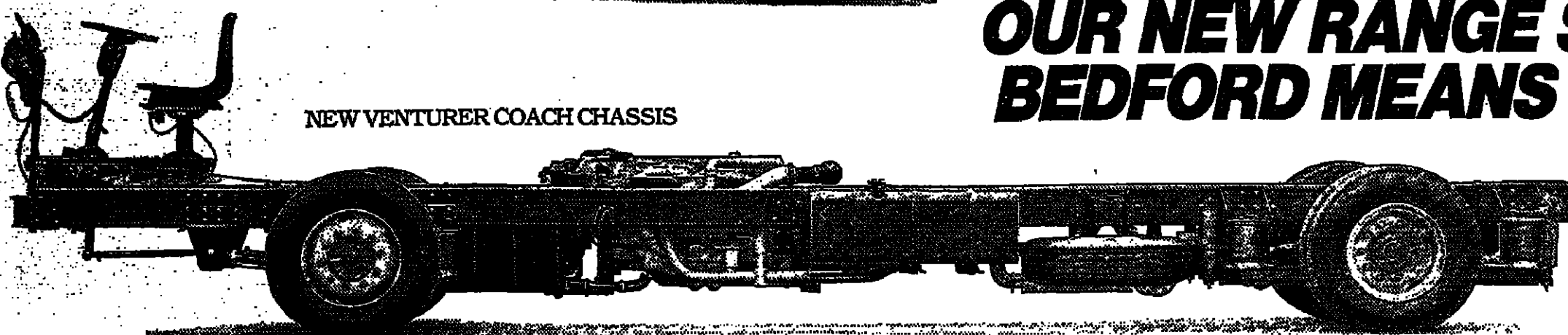
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Finally, riding high at the bottom of the page comes the new Bedford Venturer.

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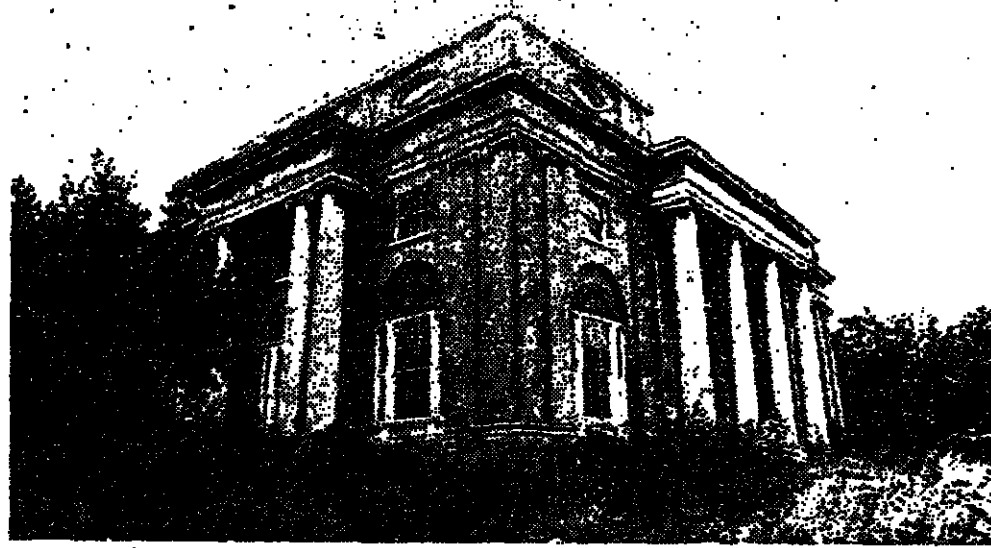
## OUR NEW RANGE SHOWS BEDFORD MEANS BUSINESS.



THE ARTS

Architecture/Colin Amery

An unhealthy dilemma



Grovelands House, Southgate, Enfield

London is rather like Rome. It is surrounded by classical villas, built as places of pleasure and retreat by citizens who chose to build near the capital. Kenwood, Marble Hill, Asgill House, Sunningdale Park, Harleyford are all relatively modest houses of architectural distinction — there are many grander houses that are better known.

John Nash understood the idea of the villa better than almost anyone and when he worked with the landscape artist Repton they produced between them sublime English works of art.

At this moment, in the North London suburb of Southgate and in a Repton park one of the finest of Nash's houses in the villa tradition stands for sale. It is unlikely that such an opportunity for the capital to secure the future of one of these remarkable houses will present itself again.

Nash designed the Southgate Grove (now it is called Grovelands) in 1797 for a Mr Walker Gray. The villa was built on a new site selected by Repton. It is a splendid site. The house stands on elevated ground, surrounded by groves of trees overlooking a park and fine lake. That park has been public for a long time and although it has suffered from municipalisation the Repton landscape can still be discerned.

The upstairs rooms are modest with some interesting doorways and domed passages. Surprisingly the hospital use has not had any major effect on the interior and the Health Authority—realising that they have been landed with a major Grade One listed building—are continuing to protect the house while it is empty, even though this entails an expense that they could do without.

Enfield Council has resisted schemes that would damage either the house or its setting and some potential purchasers have been put off by the lack of development that can be permitted near by. The local authority do have one option, if they can afford it, to use Grovelands as its main local museum.

Another house, Broomfield Park which used to house the museum, was damaged by fire earlier this year. Grovelands could replace it and become a major example near central London of country house museum in a fine park. Grovelands is at least as important as Calke Abbey—in fact it is of finer architectural quality.

I would suggest that the new English Heritage Commission under Lord Montagu acquire this house and restore and furnish it and its park as a fine example of the high point of English domestic architecture and landscape art. Lord Montagu should make the Secretary of State for Health an offer for Grovelands—it is a bargain and it is a work of art of the finest quality. The dry rot has set in and so it is imperative to move with speed and imagination.

Double Bill/Apollo, Oxford

Rodney Milnes acoustically unhelpful Apollo Theatre. In case there is anyone, like me, unfamiliar with Maurice Sendak's oeuvre, it is about Jennie, a Sealyham terrier who decides that "there must be more to life than having everything" and sets out on a journey to find out. Anyone imagining this to be a searching examination of the Jeffersonian Dilemma should, I think, be disabused: after various adventures Jennie ends up as leading lady of the Mother Goose World Theatre performing the eponymous nursery rhyme (twice). As in the case of Wild Things, which is about a child that behaves extremely badly and is unjustly rewarded, one ends up wondering "so what?" The borderline between charm and precociousness is a narrow one, frequently crossed in both works.

Birtwistle tribute/Elizabeth Hall

Dominic Gill Harrison Birtwistle is, in the estimation of many, the most important British composer of his generation. His 50th birthday year was celebrated in music on Thursday night at the Elizabeth Hall by the ensemble most intimately and aptly suited to the task—the London Sinfonietta, directed by their first conductor David Atherton, who have more than any other championed Birtwistle's music and for whom in turn Birtwistle has written so many of his major works.

Macbeth/Young Vic

Martin Hoyle I can imagine a tribal Macbeth, brooded over by masks, totems and witch-doctor crones; or a West Indian Macbeth, violence a constant undercurrent as Obeah women weave baleful magic in the sultry night. But a multi-racial Macbeth without an overall style, let alone the stylisation to make sense of Duncan's two sons being fairly obtrusively of different colours, merely jars. A mixture of speech-rhythms and acting styles deprive David Thacker's production of all conviction. Too often the cast hits on the easiest common denominator: casual, throwaway delivery.

The RSC on the road/Lincoln Cathedral

Michael Coveney It used to be called the Royal Shakespeare Company small-scale tour, but this year the shows on the road, The Crucible and The Winter's Tale, are big in every way — two powerful and astonishing works in private and public, courtesy of sponsorship from the National West, to sports halls in Scunthorpe, Worksop and Barrow-in-Furness, and which last week came to rest in the magnificent, echoing nave of Lincoln Cathedral.

Frances Kelly/Wigmore Hall

Paul Driver Though known to London audiences through her many appearances as a member of such ensembles as the Nash, Lontano and Capricorn, harpist Frances Kelly's London debut as a solo recitalist came officially only last Friday night, when she presented an attractive, well-designed programme at the Wigmore Hall.

Nina Simone/Ronnie Scott's

Kevin Henriques The mercurial Nina Simone is in residency at Ronnie Scott's until the end of next week. Recovering from one or two unfortunate experiences in the past in London (including a concert at the Barbican Hall to which she defiantly alludes during her set) this black and gifted personality is now being covered by a notable flood of adulation.

Camerata Bern/Elizabeth Hall

Andrew Clements The Camerata Bern is 21 years old, but its personnel and approach to music making remains predominantly youthful. The concert on Wednesday in the Elizabeth Hall was distinguished by its well drilled ensemble and even, sustained string tone; with performances directed from the violin of the conductor Thomas Fürti results were unusually cogent and stylish.

Arts Guide

Table with columns for Paris, Netherlands, Tokyo, London, Zurich, Vienna, and Washington, listing various arts events and venues.



Alun Armstrong in Winter's Tale





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Monday October 22 1984

## Oil prices and the dollar

REPORTS of the Organisation of Petroleum Exporting Countries' death are still a great exaggeration, despite the break in the cartel's ranks last week when Nigeria cut \$2 off its official oil price. There can be no denying that Opec is facing its most serious crisis since early 1983, but it would be wishful thinking to conclude from recent events that Opec is about to lose its grip on the world economy or that the price of oil is likely to plunge towards a level appropriate to a truly competitive market in the foreseeable future. So far at least, the setbacks suffered by the cartel in its efforts to maintain inflated oil prices have been little more than pyrrhic victories for market forces.

### Appreciation

The fact is that oil has continued to become more expensive in the past four years for most of Opec's customers, despite the 30 per cent "decline" in the spot oil price: Opec's apparent losses in the oil market have been more than offset by huge gains from the appreciation of the dollar since the official price was set at \$34 a barrel at the end of 1980. Any motorist in Europe can attest, the cut to \$29 in the official price last year was no more than partial compensation for the "third oil shock" which non-U.S. consumers had suffered as a result of the soaring dollar. Today again, the recent jump in the dollar is more than sufficient to account for the pressures which are building up on the official oil price.

In terms of Deutschmarks, for example, the spot oil price was still 12 per cent higher at the end of last week than at the worst point of the 1980 Iraq hostage crisis. For Western Europe as a whole, oil today is 25 per cent more expensive measured in European Currency Units (ECUs), than at its 1980 "peak". To re-establish for West German customers the Deutschmark level which the official oil price hit in 1980, when it was set at \$29, Opec would have to slash its marker crude to \$21 a barrel today. The disparity between the appearance of falling oil prices and the reality of a soaring dollar is only slightly smaller in Japan, and a good deal worse for the rest of Europe.

The present tensions within Opec and the probable course for oil prices in future have to be viewed against this background. Since non-dollar economies account for nearly two-thirds of the non-Communist world's oil consumption, and a substantially higher proportion of Opec's customers, an

oil price which settled in the \$25-\$27 region which has been mooted in the past week would still represent a price increase for the average oil user since the official price was last adjusted in March 1983. From the oil producers' standpoint, too, a modest reduction in the official price would still represent a gain on their position last year. With all their exports priced in dollars, while most of their imports come from Europe, Japan and the Third World, the Opec countries have enjoyed a huge terms-of-trade gain as a result of the dollar's 50 per cent-plus appreciation in the past 18 months. If the dollar starts falling against other major currencies, these effects could, of course, be reversed. In fact, the hope of an imminent decline in the dollar throughout the past few years has been one reason why European governments have made no effort to persuade Opec to abandon dollar illusion and price its oil in ECUs, Special Drawing Rights or some other composite currency which could resist economic pressures in the oil market more effectively than the volatile American currency.

However, the bitter experience of 1973 and 1979-80 should be a reminder that a sharp decline in the dollar can provoke an escalation of dollar prices, instead of a moderation in the prices paid by Europe.

### Economic reality

Concern about possible price increases in the future may seem misplaced amid the present oil glut and Opec's internal crisis; and the oil consuming world should certainly do nothing to save Opec embarrassment or to assist it in defending its present price structure. A decline in the official price is today more overdue than ever because of the stratospheric level of the dollar. In the longer term, however, it must be recognised that Opec will continue to have a very high proportion of the world's incremental oil production capacity, even if it now provides only 40 per cent of non-Communist output. The world may therefore have no choice but to live with Opec's insistence on oil prices for the foreseeable future. It is thus in everyone's interest to put relations between Opec and its customers on a more rational basis. If the current oil price cracks and a new, lower price structure is established, a high priority for both Opec and its customers should be to move away from the dollar standard, which is becoming increasingly divorced from international economic reality.

FROM early next year, millions of American telephone subscribers will be given the opportunity to save money on overseas calls by thinking twice before they lift their receivers and dial.

Last week, MCI Communications and GTE-Sprint, two smaller telephone carriers which compete with American Telephone and Telegraph in the U.S. long-distance market announced plans to carry the battle into the international arena, where AT&T has long had a monopoly.

They expect to undercut by as much as 40 per cent AT&T's current charges to Britain and several other countries. AT&T has already retaliated with proposals to slash its own tariffs by up to 29 per cent from next month, signalling the outbreak of a price war in the \$1.5bn-a-year transatlantic telephone market.

MCI also plans soon to launch a low-cost overseas electronic mail service. This will enable documents to be sent by telephone line to central distribution points abroad and is expected to compete with international telex, courier and postal services.

Initially, at least, the new telephone services will link the U.S. to only a handful of countries, and the benefits of price competition will be confined to American customers. BT will route outgoing calls to any U.S. carriers with which it has agreements, on a random basis.

The longer-term impact of these moves—which stem from the more radical U.S. deregulation which has recently caused AT&T to expand in overseas equipment markets—is expected to be very far-reaching.

They are the latest in a series of cracks to appear in the previously monolithic structure of the international telecommunications industry, as it starts to develop from a sedate utility into a hard-fought commercial business.

Competition is also brewing in the provision of international communications circuits, hitherto tightly regulated by government agencies. Cable and Wireless of Britain and Tel-Optik of the U.S. plan to compete for a very high proportion of the world's incremental capacity on which they will lease capacity to all-comers from 1989. Several groups are also seeking to challenge the effective monopoly of Intelsat, the international government agency, over trans-

## International telecommunications

# A price war with a lot at stake

Guy de Jonquieres on cuts in transatlantic phone charges

atlantic satellite communications.

These developments are set against a background of bewildering rapid technological change, which is sharply reducing the costs of many telecommunications services while erasing the previous barriers between computing and communications.

The U.S. and Britain have already opted to meet these new pressures head-on by abolishing or loosening many of the traditional constraints to competition in their telecommunications markets. Japan, too, is starting to chip away at the monopoly of Nippon Telegraph and Telephone, its domestic carrier.

Elsewhere, however, the picture is much more confused. Continental European countries, whose telecommunications markets are mostly still dominated by state monopolies (PTTs), are torn in several directions. Though many recognise the pressures for change are mounting fast, debate over the form it should take and

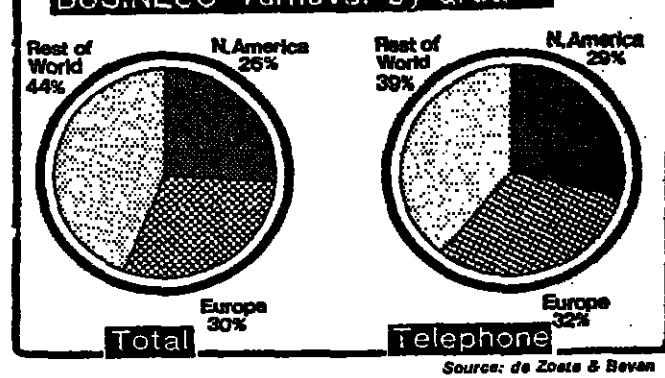
how far it should go is still unresolved.

Expansion by AT&T's new transatlantic competitors seems set to add impetus to the debate. "It will definitely accelerate the pace at which the European PTTs deregulate," forecasts Mr Dennis Conroy, direc-

## HOW TRANSATLANTIC PRICES HAVE FALLEN



## BRITISH TELECOM'S INTERNATIONAL BUSINESS Turnover by area



tor of telecommunications consulting services at Coopers and Lybrand, the large firm of accountants and management consultants.

So far, however, Western European countries seem split on how to respond. Britain, Belgium, Greece and Spain have agreed how to link up with MCI

France and West Germany, however, still appear determined to resist what they regard as a disruptive American challenge to their national monopolies.

British Telecom's motives are unashamedly opportunistic. It sees link-ups with U.S. carriers as a chance both to steal a

per cent annually—much faster than for domestic traffic—and by as much as 20 per cent on the transatlantic routes, which account for more than a quarter of BT's international business.

By keeping its international tariffs relatively low, BT has persuaded about one-third of the U.S. multinational companies operating in Europe to "hub" their communications in Britain. By routing their transatlantic traffic via London, companies can avoid paying the much higher prices which many other European countries charge for calls made directly to the U.S.

BT reckons that its advantages as a network "hub" will grow as the volume of computer data carried on telephone circuits increases. It points out that advanced and flexible communications are increasingly vital to competitive survival in many industries, particularly fast-growing service sectors such as finance and banking. Hence, it argues, easy access to such facilities will be an important factor influencing invest-

ment decisions by these industries.

If it is right, then other European economies stand to lose by clinging to rigid monopoly telecommunications policies. However, that is not how many of Britain's neighbours see it. Some EEC officials argue that by greeting competing U.S. carriers with open arms, BT is opening the door to powerful rivals which will eventually overwhelm it.

Several European PTTs have considered responding to competition among U.S. international carriers by holding an auction between them and conceding an agreement with the one which offers the best terms. However, Mr Conroy of Coopers and Lybrand believes such attempts to exclude other carriers could be self-defeating because they would encourage customers to bypass national communications networks altogether. "Anybody can drop in a small earth station anywhere these days and start beaming messages straight up to satellites," he says.

That remains barely to most European PTTs. Nonetheless, many European governments recognise that pressures for some kind of deregulation are likely to become irresistible in future years and are groping their way towards solutions.

Talks are under way in the EEC on harmonising technical standards, and the idea of encouraging reciprocal purchases of telecommunications equipment between the EEC has been cautiously approved. In West Germany, which has Europe's biggest telecommunications market—but also the most restrictive policies—the Government is about to appoint a committee to study liberalisation proposals.

Formidable obstacles to progress remain. Nationalism is strong and some countries, notably France, see their PTTs as powerful instruments to promote their high-technology industries. Pressures from many national telecommunications monopolies also subsidise loss-making postal services and provide budget revenue. Hence, governments are wary of tampering too much.

However, U.S. deregulation has given a massive boost to the forces which are turning telecommunications into a competitive international market. Ultimately, the choice facing many European policy-makers may be either to plunge into the competitive tide or to risk being swept aside by it.

## Holding back the City lifeboat

ENOUGH is now known of the reasons behind the narrowly averted collapse of Johnson Matthey Bankers to suggest that it ran into trouble largely as a result of its own incompetence. In one sense this is reassuring because it means that JMB is not symptomatic of deeper problems in the UK banking system. But it also makes the rescue operation that much harder to justify, as indicated by the doubts now being voiced in both the City and Whitehall over the way the Bank of England has handled the whole affair.

Certainly the Bank has not emerged with flying colours. By its own account it became aware of potential trouble last year, yet it waited until matters reached a critical point last month before intervening. The delay not only added to the risks, but also reduced the courses of action open to it and forced it into the least satisfactory solution: outright takeover. Since then, its efforts to persuade a group of banks to guarantee JMB's additional losses have encountered understandable resistance from those who wonder why they should pledge money to a badly run bank with whom they had few dealings.

### Shaken

The Governor of the Bank pleaded at the Mansion House Banquet last week that "one cannot always deliberate over the design of the house when the kitchen is on fire." But the fire is now out, and the structure should be examined. Clearly, the major failing was the Bank's procrastination, since without it the rescue would never have been necessary. But though it is tempting to call for more rigorous bank examination by the authorities, the experience of the U.S., which has such a system, is not encouraging: frequent visits by bank examiners failed to prevent the Penn Square and Continental Illinois crises. JMB does not argue for a regulatory crackdown, and is unlikely to provoke one.

What can be said, though, is that those who deal with British banks must, in the absence of fuller information on which to form their own judgments, have faith in the ability of the Bank of England to spot trouble and take appropriate and timely action. That faith has been somewhat shaken by the JMB affair and it is encouraging to hear the Governor conceding that it "doubtless has lessons for the Bank of England too."

### Costs

It is also unfortunate that JMB should have had to be nationalised. If the Bank was worried about the impact of its collapse on the bullion market yet it waited until matters reached a critical point last month before intervening, it is fair to say that it was responsible for the rescue to have catered specifically to those risks by, for example, setting up guarantees for JMB's bullion commitments and allowing the bank as a whole to suffer whatever fate awaited it. As it is, the precedent has been set for rescuing a mediocre, medium sized bank at a time when City changes demand greater market discipline. The decision to rescue a bank will always be an extremely difficult one requiring a case-by-case approach, but the aim should be to identify and contain the possible damage rather than necessarily try to preserve institutions.

JMB's shareholders, the Johnson Matthey Group, have lost their investment in the bank, so the cost has been born in the appropriate quarter. But the more demanding climate that now prevails in the City has been highlighted by the Bank's difficulty in assembling the guarantee package: potential helpers have had to balance the charms of the Governor's smile against the more tangible requirements of their shareholders. As the Governor himself remarked, the City's co-operation in rescues "should not be taken for granted," which makes it all the more important that problems should be dealt with long before a lifeboat becomes necessary.

## Chair for motor industry

Not before time, Britain now has its first professor of motor industry economics. Garel Rhys, 44, will fill the chair at University College, Cardiff, where he was previously senior lecturer in economics.

The new chair has been endowed by the Society of Motor Manufacturers and Traders as part of its campaign to improve the image of the motor industry in Britain and so that some in-depth research can be done into the major issues facing it.

University College, Cardiff, was chosen because it has a strong leaning towards industrial economics. Rhys studied at the University of Swansea, where his professor was Victor Morgan, one of the more eminent banking and financial economists of the day. Post-graduate work at Birmingham University brought him into contact with Prof. Alan Walters, later to become one of Mrs Thatcher's favourite monetarists but then a transport economist.

Rhys recalls that one of the most important lessons he learned from Walters was that an industry would not necessarily be transformed simply by an injection of high technology. Walters pointed out that new technology did little to help British Rail improve its financial position.

It was at Birmingham that Rhys developed a taste for the motor industry when he studied the economics of the British commercial vehicle industry. Since 1975 he has been adviser to the Commons Committee on Trade and Industry, advising on a range of matters including the steel industry's problems and the Concorde programme as well as motors. Rhys believes the British motor industry is at the crossroads. "It is an entirely different industry compared with ten years ago. There are different opportunities to be grasped—but they must be grasped. The industry's re-

covery phase is by no means over and the next ten years will be chaotic. The industry cannot be reduced in size much further without disappearing completely, leaving Britain as an offshore base where cars are simply assembled."

So does British Airways know something we do not? Or is it merely boosting its pre-privatisation profits? Neither, BA responds. "There must have been some mistake or misunderstanding for which we can only apologise." It fixes its exchange rate monthly to avoid daily fluctuations. And, far from under-selling the pound at the moment, it is flying the flag by offering a generous rate of £1.30.

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### Work room

Robin Lingard, the 43-year-old civil servant appointed to head Lord Young's tiny but controversial jobs unit in the Cabinet Office, has become familiar with a number of industries during his years at the Department of Trade and Industry.

Aviation and aerospace, tourism, steel, computers and office systems — at one time or another, he has worked on Government policy in all these sectors.

But when it comes to ideas for job creation, Lingard is unlikely to find anything more stimulating than his own cur-

## Men and Matters

organisation which may well seek a public flotation within the next couple of years. Leslie Burton, chief executive of Hicks for the past 15 years, has been striving to change the company's image recently. He explains: "We are not just decorators for blue-haired ladies or designers of royal yachts for Saudi Arabians. We design biscuit tins for M&S and, in Japan, we design everything from ladies' knickers to spectacles."

Button is behind the company's more aggressive new approach to life. He inspired a rethink after a public company made an offer for Hicks last year. "We had to decide if we were to continue as a family affair, or if we were to grow into something much bigger and capitalise on all our hard work. We chose growth."

Button, himself a large shareholder, is delighted that Stein has come on board. He says: "We are already doing considerable business with Ladbroke and we both saw tremendous value in some form of tie-up. We fixed it over breakfast in 20 minutes."

The latest result of the combined efforts will be unveiled today. The one-stately town house, 100 Piccadilly (it later became the Public Schools Club), has been turned into nearly 50,000 square feet of top-quality West End office space. It is expected to command the highest rents in that well-beeled corner of London.

## Stein's designs

Cyril Stein, Chairman and Chief Executive of Ladbroke, the betting-to-property development group, has a legendary head for figures. But it is said to be second only to his eye for detail — particularly when properties built by his company are being fitted out and furnished. He insists upon good design and impeccable finishes.

All of which may explain why Ladbroke has just bought a 20 per cent stake in David Hicks International, the design group started 27 years ago by Lord Mountbatten's son-in-law, and still well known for its aristocratic clients and connections. Hicks remains a sizeable shareholder.

Nowadays the company has contracts as far afield as Australia and Pakistan. Stein — who is joining the board — is seen as an important recruit to an

# Matheson House

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### What's cooking

The City revolution is producing a brand new vocabulary. As senior partners prepare to pocket their cash and depart for the shores, attention now is falling on that group of people in the broking and jobbing firms who (says my City guru) will determine the future of the British securities market. They are being described as "the marzipan set"—just below the icing and just above the cake.



FOREIGN AFFAIRS

La France at the fulcrum

By Ian Davidson

PRESIDENT MITTERRAND'S state visit to Britain this week is more likely to be ceremonial and declaratory than productive of joint political initiatives.



Mrs Thatcher

Unfortunately, that relationship still leaves rather a lot to be desired. Ostensibly, the old quarrels have been smoothed away.

Dr William Wallace, in a recent *Southampton Express* paper, writes it rather well: "A number of historical rivalries have been reinforced by the experience of the past 25 years, which the conventional wisdom of much of the French elite would characterise as a succession of British attempts to undermine French European policy, while parallel British views portray France as determinedly and successfully blocking British interests."

At a superficial level, the reasons for the rivalry are only too obvious. Unlike Germany, which was defeated and remains divided, both France and Britain emerged victoriously from the last war, even if it was a Pyrrhic victory.

But there are other, less obvious reasons, some of which are aptly pointed out by William Wallace. The first is that, despite all these trappings of semi-world-power status, Britain plays a less important role in Europe than France. Britain is not the first trading partner of any other European country except Ireland, and to many of its European partners it ranks fourth, fifth or sixth.

Secondly, there has remained a dislocation between the rhetoric and the reality of British foreign policy objectives. There has been a steady shift of priorities from the Empire and the Commonwealth to the Atlantic towards Europe.

At a superficial level, the reasons for the rivalry are only too obvious. Unlike Germany, which was defeated and remains divided, both France and Britain emerged victoriously from the last war, even if it was a Pyrrhic victory.

much as before. This ambivalence no doubt has something to do with the British character and the busy culture of Whitehall. Many years ago Jean Monnet took the view that the British would never be interested in ideas—they were impressed only by facts.

Now there is a lot to be said for caution and pragmatism. It is not to be denied that the joint defence of Germany has long been a great deal more wholehearted than that of France, had fewer revolutions, fewer constitutions, and more stable government.

Can it entirely be an accident that almost all developments in the evolution of European policy in the past half century have been based on French ideas?

to see, that they were joining, not a club, but an idea. As a result, British resentments over the overburdening of General de Gaulle during the 1960s are paralleled by continental resentments at British treachery during the 1970s.

Winston Churchill was an abnormal Englishman, in the sense that he was a strategic thinker. But when, in 1940, he made his astounding offer of Anglo-French unity, in the forlorn hope of stiffening the backbone of the Reynaud government, by then fled from Paris to Bordeaux, where did the idea come

from? Jean Monnet. (And who telephoned the offer from London to Bordeaux? Charles de Gaulle.)

The idea of the European Coal and Steel Community was launched by the French government, but the inspiration was again Jean Monnet; and though the Common Market is publicly associated with the Belgian, Paul-Henri Spaak, the original impulse once more came from Monnet.

But in the 1970s we have had the European summit from President Pompidou, the European Monetary System from the alliance between President Giscard d'Estaing and Chancellor Schmidt and in the 1980s the proposals for closer European defence co-operation from President Mitterrand.

But is it not entirely an accident, if there is to be leadership, if it cannot come from the small countries, Germany is insensitised by its history; since Britain would not, there was only France and the French have dickered with more grand strategies than is perhaps prudent.

Each of the proposed new councils will need such a chairman, who should not be a practitioner and who should be supported by a number of lay members of high quality. If the criteria are met, the new bodies will be full capable of discharging their responsibilities entrusted to them.

Lombard

Surreal air on EEC expansion

BY QUENTIN PEEL IN BRUSSELS



President Mitterrand

THERE IS a decidedly surrealistic air about the continuing, nay, interminable negotiations between the member states of the European Community, and Spain and Portugal, on how they can join the Club.

On one hand, there is a plethora of platitudes from virtually all concerned on the importance of getting on with the talks. Everyone appears to subscribe to the view that it is overwhelmingly desirable, from a political point of view, that the Ten should become Twelve.

The other unreal, or at least lop-sided, aspect about the whole exercise is that, in recent months, it has effectively ceased to be a negotiation. Instead, the EEC states have been spending all the available time locked in their own internal discussions to reach a common position. By the time they come to present their case to the Spaniards and Portuguese, it is all but set in concrete.

The problem has finally come to a head because only now, after more than five years of talks, are the two sides beginning to tackle the real problem areas of enlargement—questions like how to incorporate Spanish agriculture in the Common Agricultural Policy, how to accommodate the huge Spanish fishing fleet in overfished EEC waters, and how to dismantle the tariff barriers protecting

World textile trade

From the Managing Director, Central Confederation of the Textile Industry in the Federal Republic of Germany

The article by Mr Anthony Morton, your Textiles Correspondent, entitled "MFA" has had little effect on freeing textile trade contained some criticisms of the GATT study committee of the GATT that I feel ought to be put in a broader perspective.

In spite of all the criticism levelled at the multi-fibre arrangement it has, according to the recently published GATT textile study, enabled the third share of the developing countries in world textile trade to increase from 15 per cent to 21 per cent between 1976-1980 while the share of the industrialised countries fell from 78 per cent to 68 per cent (state trading countries having increased from 7 per cent to 10 per cent in that period). For the clothing trade, this change was even more pronounced, the industrialised countries share having fallen from 66 per cent to 50 per cent, while the developing countries improved from 30 per cent to 38 per cent.

This change is reflected in the growth of the trade deficit of the EEC vis a vis the exporters of MFA products which increased from 2.5bn ECU in 1977 to 6.8bn ECU in 1980.

Letters to the Editor

than the USA. So this goes all the more for the EEC. Not that the MFA is an end in itself or that the GATT rules are or should remain a dead letter for international textile trade indefinitely. But, as long as these massive distortions to competition prevail—unfortunately, both my own Government and the EEC Commission (not to mention the GATT study) have been sitting idly by.

Fixed Channel link

From the Secretary General, Franco-British Chamber of Commerce and Industry

When the European Airbus consortium required that British Aerospace invest £250m, Mrs Thatcher's publicly stated anxiety that the new A320 must not be another Concorde could well be echoed over any request for public funds to support another engineers' pipe dream.

I am sure that all the engineers in all the project teams are capable of building a safe and practical tunnel or bridge or whatever. There can certainly be few Britons or Frenchmen who would not look upon a fixed-link as a symbol of European achievement.

Regulation in the City

From the Chairman, Wider Share Ownership Council

I do not believe it is wishful thinking to assume that the sense of responsibility felt by the institutional bodies which will be represented on the two new councils will be adequate to their tasks, even indeed perhaps especially—in the increasingly sensitive area of conflicts of interests.

Put coal into liquidation

From the Managing Director, Pordoun Engineering and Marine Sales

Sir,—We recently heard from the Midlands that a third generation family business was shortly going into liquidation. They were simply unable to sell their products and services at an economic price, and their bank borrowings had become a burden.

Drug abuse debate

From the Information Officer, Liberal Party

Sir,—With reference to Malcolm Rutherford's article, "The danger of the new" (October 12) would like to draw your attention to a mistake in the penultimate column. While it may be true that neither the Labour Party nor the SDP have debated on the subject of drug abuse at their annual conferences, this is not the case with the Liberal Party.

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## Terry Byland on Wall Street

### Oil-price cuts fuel a lift-off

A WEEK can be a long time in the stock market, as some of Wall Street's operators found to their disadvantage on Thursday when they scrambled to cover short positions in a market suddenly heading into the stratosphere.

The combination of tumbling interest rates and lower oil prices proved irresistible to the institutional investors, and brushed aside all other factors, such as the prospective weight of Treasury funding, that had been troubling the markets.

The explosion in the stock market was all the more dramatic because its response to falling short-term interest rates had been somewhat sluggish. The credit markets, however, were quicker in reacting to the apparent slowing in the U.S. economy and also latched on rapidly to the anti-inflationary implications of Norway's cut in North Sea oil prices, which inflamed the world oil market.

The stock market still remained sluggish after the cut in UK oil prices. Further losses in oil and oil service stocks held back industrial market indices. However, a head of

	Oct 19	Prev week
Stand. & Poor's 500	167.96	164.18
Yield on 3 month bond	8.57	8.58
Yield on long term bond	11.82	12.17

investment steam was built up in transport issues, which are natural beneficiaries of lower fuel prices, and in utility issues - an interest-rate play, as they say on the street. On Thursday afternoon, however, the boiler blew up.

The prospect of cuts in world oil prices has chimed in happily with the optimistic wing of the credit market, which believes that the Federal Reserve wants to ease policy, and may well be in the process of doing so. Oil price cuts, the argument runs, will reduce inflationary pressures and will further opening the way for the Fed to slacken its grip.

Such a view is encouraged by a federal funds rate below 10 percent, as was seen often last week. Treasury bill rates have plunged, putting the three-month rate at around 9.5 per cent at one time, and the six-month rate not far above it. Another sharp fall in M1 money supply, which was already comfortably at the bottom of the Federal Reserve monitoring range, and the downward adjustment in the Commerce Department's gross national product estimate for the third quarter, all seem to complete the case for an easing in Fed policies.

Not all the pundits are as easily satisfied. Dr William Griggs, of credit market analysts Griggs and Santow, believes the market has been "a bit too enthusiastic" in its estimation of Fed policies. This month's federal rate indicates a "more mixed picture" of U.S. economic trends than at mid-summer, he suggests. His belief that the Fed may want federal funds above 10 per cent is supported by the board's successive moves to drain reserves from the market by matched sales over the past fortnight.

At midweek, Dr Henry Kaufman, the Salomon Bros guru, tried to throw a similar dose of cold water over the market when he gave a warning in his quarterly investment strategy report that "the U.S. economy is now reaccelerating. Overall credit demand, he said, was rising sharply and the cyclical trend in interest rate remained upward.

Renewed difficulties at the leading banks would be a boost for the U.S. market, even if the immediate effect were to force the Federal Reserve to leave credit policies slack. It would, at the very least, upset the Treasury's massive funding programme, which will affect the market for the next month.

Meanwhile the flow of corporate results is bringing mixed blessings. A strong dollar and a slowing economy is hurting some sectors hard. If markets are driven by fear and greed, as some would have it, then perhaps greed took the upper hand in the stock market last week.

## HONG KONG AND CHINESE BUSINESSMEN UNDER INVESTIGATION

# HK share dealing probe launched

BY DAVID DODWELL IN HONG KONG

THE HONG KONG authorities have set up a high-powered tribunal to investigate possible insider share dealing involving prominent business figures from both the colony and China.

The move comes after several months of investigations by the staff of Hong Kong's Security Commission after an abortive HK\$1.1bn (\$120m) property deal. It is only the second time in the territory's history that such a tribunal has been formed.

The tribunal will investigate dealings in the shares of International City Holdings (ICH), a property group controlled by Cheung Kong Holdings and Hongkong Electric, between January and the end of June this year.

Cheung Kong is controlled by Mr Li Ka-Shing, one of Hong Kong's most powerful and respected business figures, while the biggest single shareholder in Hongkong Electric is Hongkong Land, headed by Mr Simon Keswick, chairman of Jardine Matheson.

The securities commission first launched an investigation in July, after news that Everbright Industrial, a mainland Chinese corporation headed by the flamboyant Wang Guangying, had backed out of an agreement to buy for about HK\$1.1bn a luxury property development from ICH.

When reports of the deal were first leaked in January, the share price of ICH rose significantly, as did a number of stocks in the de-

pressed property sector. What market analysts had thought was a firm commitment from Everbright was actually no more than an option to purchase.

When the deal was annulled, Everbright was repaid with its 5 per cent deposit, and the interest that had been earned on it during the six-month period.

At the end of 1983, ICH shares stood at 47 cents. During the two weeks to January 13, they rose to 64 cents. Shortly thereafter, a local Chinese-language newspaper reported that ICH and Everbright had reached tentative agreement on a HK\$1.1bn property deal.

By January 27, ICH shares stood at 71 cents, for a 51 per cent gain on the month. During the same period, Hong Kong's Hang Seng index improved by 26 per cent.

By the time the deal was formally cancelled, in an announcement that rocked the local stock market on June 28, ICH's shares had slipped below 50 cents.

The tribunal will be made up of one Supreme Court judge and two other members. It will have wide powers to gather information but no power to punish. The Hong Kong securities ordinance, under which the tribunal has been established, makes clear that such a body would only be set up when it appears to the authorities that insider dealing "has taken place, or may have taken place."

# Japanese banks to support loan company

BY YOKO SHIBATA AND ROBERT COTTRELL IN TOKYO

A SYNDICATE of Japanese financial institutions is expected to support Promise, a large Osaka-based consumer loan company now suffering a liquidity crisis. Promise's ¥240bn (\$1.6bn) loan book makes it Japan's second-largest "sarakin," a type of finance house specialising in high-interest loans to salaried office workers.

The institutions supporting the package include the Long-Term Credit Bank of Japan, Sumitomo Trust and Banking Corporation, and Nippon Life Insurance. Their immediate assistance is likely to include a credit line assuring Promise the ability to meet ¥13bn of bills falling due at the end of this month.

Promise is thought to owe foreign banks about ¥70bn and according to Mr Masaru Yano, Promise's president, the company is being squeezed by a reluctance on the part of the foreign banks to maintain their credit lines, after the failure of Yatsugi Credit, another large sarakin, in June.

Mr Yano said that Promise was fundamentally sound, and had operated profitably in the first half of this year.

Promise reported profits before tax and extraordinary items of ¥23.9bn for 1983. Its loan book is second only to Takefuji, which leads the sarakin sector with loans totalling ¥361.4bn.

Japan's sarakin have been generally uneasy since new regulatory laws came into force last November. Imposing licensing requirements and interest-rate ceilings on the Government has also been guiding Japanese credit institutions to cut loans to sarakin rendering the companies more dependent on loans from foreign banks. While many sarakin are less than blue-chip borrowing risks, they are one of the few business prospects in Japan readily accessible to foreign banks.

The co-ordinated support for Promise seems to indicate that, even though the Government wants to discourage sarakin, it is more anxious to preserve Japan's financial system from the shock of difficulties at a large, nationwide institution.

Official disapproval of the sarakin was spurred by public concern about the effects of the usurious interest rates and heavy-handed debt-collection methods practised by some fringe operators.

Japan's four largest sarakin, including Promise, charged average interest rates of between 37.5 and 41.8 per cent during 1983, a year in which 813 suicides and almost 6,000 disappearances resulted from loan-related difficulties.

## THE LEX COLUMN

# No call-up for the reserves

Britain's Chancellor of the Exchequer is certainly consistent. On Thursday night, as the pound was standing at its lowest trade-weighted level since the sterling crisis of 1976, Mr Nigel Lawson reiterated his view that currencies - like interest rates - adjust fairly rapidly to changes in monetary circumstances. Not every banker listening to his speech would have agreed with that analysis, but one conclusion at least must have been obvious to everyone. To support the pound with foreign exchange reserves would, in the British Treasury's opinion, show neither wit nor wisdom.

Concerted action by the central banks of the European Monetary System countries seems to have stabilised that particular structure over the past few months and, looking further back, the dollar support package of November 1978 undoubtedly contributed to the reversal of the U.S. currency's decline.

It would be unrealistic to expect that kind of co-ordinated action now. The Fed refused to acknowledge even the spectacular - and apparently unmotivated - dollar rise of September 21 as "disorderly" and is probably too concerned about the inflationary and funding consequences of a falling dollar to change its tune in an election year.

For the UK authorities, however, it is a different matter. The official position is that the Bank will intervene either to slow a rapid currency movement which is having an exaggerated effect on the price of other assets or to test the strength of a trend in a thin market. Neither approach stemmed the run on sterling in July and arguably a more aggressive - and more visible - stance might have pre-empted at least one of the subsequent rises in base lending rates.

The direct effect of intervention in a foreign exchange market which worldwide can generate daily volumes of \$100bn or more is bound to be limited. Yet the psychological impact in a market as technically oriented as today's can be considerable. The appearance of official resistance might soon send sterling bears running for temporary cover.

The problem facing the Bank of England is that the financial markets may not share the Treasury's faith in the monetary equilibrium of exchange rates. Any particular party may indeed represent the market-clearing price but, when the alternative to respect for foreign exchange markets is an increase in sterling interest rates, it is worth studying the options. And, as an instrument of short-term policy, intervention has its uses. What else, after all, are foreign-exchange reserves for?

By acting on its own, the Bundesbank is in the unenviable position of trying to push a piece of string without having anyone to tug the other end. In the circumstances it has been surprisingly successful. No one, least of all the Bundesbank, pretends that foreign exchange intervention will alter the long-term trend of an exchange rate. It preached as much to the Banque de France early last year. But that is

not a reason to reject the idea out of hand.

Not having enough locals or genuine clients is bad enough. But footsie is also hampered by a lack of interest among the principals who use LIFFE. The stockholders are trying to make a market, but brokers can pull in higher commissions in the cash market. U.S. commercial banks have little to do with equities, and U.S. investment banks are more interested in the UK government securities and Eurodollar contracts.

As a result, spreads are wide and liquidity is poor. Until big institutions start to use the market in earnest, liquidity will stay that way, yet they are unlikely to flood in until they see higher volumes.

If institutions remain unwilling to take risks, the vicious circle could stay unbroken, at least for the time being. Its only hope may be 1986, when the abolition of fixed commissions should create more principals who want to hedge their equity books. If LIFFE is lucky, it may get as big a bang as the Stock Exchange.

### Footsie's future

Launched with great ceremony in May, the FT-SE ("Footsie") 100 index futures contract at the London International Financial Futures Exchange (LIFFE) has found itself

## EEC farm machinery price probe

By Andrew Gowers in London

THE EEC is investigating John Deere, the British farm machinery manufacturer, and possibly other manufacturers in Europe for irregular trading practices in their pricing policies.

Prices of farm machinery in the UK are generally higher than in other EEC countries, notably Belgium.

The investigation is being pursued urgently and a decision is likely before Christmas. If John Deere is found guilty, it may face a large fine for breaching EEC rules providing for a common Community market.

The farm machinery case resembles that mounted against EEC motor manufacturers, who charge higher prices for their cars in Britain, for example, than in continental Europe. These manufacturers have been accused of preventing imports of cars, bought at low retail prices abroad, into the UK. That case has now led to the drafting of EEC regulations aimed at bringing UK prices closer to those charged elsewhere in the Community.

Mr Doug Walker, managing director of John Deere UK, confirmed at the weekend that his company was being investigated and said "a number" of other companies were also believed to be under examination.

British executives of International Harvester, Massey-Ferguson and J. I. Case, however, denied knowledge of any investigation against them. Commission officials would say only that they were conducting an inquiry into the farm machinery sector.

Other industry executives said they were regarding the investigation of John Deere as a test case. One executive said that although no formal barriers existed to trade in farm machinery, the complexity of differing national rules might present an obstacle.

The investigation is likely to be complicated by factors, including differing technical specifications and safety regulations for machinery from one EEC country to another, and measures enacted by various governments to subsidise credit to farmers or control machinery prices.

## U.S. defends tax on Eurobond issues

BY STEWART FLEMING IN WASHINGTON

A SENIOR U.S. Treasury official has strongly defended the decision by the Internal Revenue Service to impose a 30 per cent withholding tax on 10 Eurobonds issues made between June 22 and July 18 even though Congress was then in the process of lifting the tax on bonds sold abroad.

The IRS ruling, which affects issues by leading U.S. corporations, provoked recriminations in the Eurobond market last week and claims that because of the tax the issues might have to be cancelled.

During the summer, the U.S. undertook a reform of the tax code relating to foreign bond issues, which lifted withholding tax on the bonds. One of the objectives was to make it more attractive for investors to purchase U.S. Treasury securities.

The first issue of Treasury securities targeted at international investors is due to be launched this week and that is one of the reasons why the dispute about the position of corporate bonds issued during the summer has become such a sensitive topic.

The issuers of the bonds in question have maintained that they were led to believe that the issues would not be subject to withholding tax. However, the senior Treasury official said the Treasury had given no such assurances.

"There was no basis for concern that the U.S. was acting capriciously in the decision, he said. "The ruling illustrates how the principles of law should be applied in the light of a Congressional decision," he said, pointing out that the tradition in the U.S. was not to impose changes retroactively.

Bankers say, however, that the controversy has still served to redouble the doubts of retail investors over the degree to which their anonymity will in practice be protected if they buy this week's special \$2bn issue of Treasury securities that is aimed specially at foreigners.

Such investors are the main potential buyers of the paper as institutional buyers are already active holders of domestic U.S. bonds.

There is strong interest in the bonds from Japan, however, and some bankers believe that interest in the Treasury's auction may be sharpened by the desire of a number of investment banks to gain publicity by bidding at premium rates for the issue, the first of its kind to be sold by the U.S. abroad.

Capital markets, Pages 17-18

## Lawson rules out reflation

By Max Wilkinson in London

UK UNEMPLOYMENT is likely to remain at a high level for a considerable time to come, Mr Nigel Lawson, Chancellor of the Exchequer, warned yesterday. It was fundamentally an issue for society to resolve, and one for which the Government had no new remedies to offer.

Mr Lawson, interviewed on television, compared unemployment to the crime rate as something which he said was essentially beyond the powers of the Government to reduce - although in both cases it had introduced measures to influence the trend.

He said there would be no question of the Government trying to reflate the economy by increasing borrowing while he remained Chancellor, for that would lead to more inflation and would ultimately be self-destructive.

His emphasis on that point may have been influenced by anxiety about what would happen to sterling when the foreign exchange markets open today.

Sterling's index fell to a record low level of 74.0 on Friday, at the end of a week in which it had lost 3 per cent of its value as a result of concern about the US miners' strike and weaker oil prices.

The currency's weakness is likely to prevent Mr Lawson from encouraging lower interest rates, although that would be the most important measure available to him that might help stimulate the economy and create jobs. He will not wish to make a cut if there is a chance of pushing sterling into a further decline that might be highly inflationary.

On unemployment, the Chancellor said: "It would be dishonest to suggest that there is some remedy in free society the Government can pluck out of the air and the problem is solved."

If there were a lever to be pulled to reduce unemployment, Mr Lawson said, he certainly would have pulled it. However, he added: "What we are talking about is not an economic problem but a social problem and a human problem - and these are the sort of problems that do take a long time to put right."

Mr Lawson repeated his view, expressed at the Conservative Party conference and at the International Monetary Fund in Washington, that slower growth in wages was the key to reversing the unemployment trend.

In the last two years, he said, average earnings in Britain had risen by about 2 percentage points more than the inflation rate. If wages had just kept pace with prices, he believed 500,000 extra jobs would have been created.

Mr Lawson agreed that unemployment could also be reduced by abolishing trade union monopoly powers, and making trade union agreements legally binding.

That also would have to be a gradual process, because "in a free society and a mature democracy you have to govern by consent. We have to go at a steady pace."

## World Weather

Oct 21		Oct 22		Oct 23		Oct 24	
Temp	Wind	Temp	Wind	Temp	Wind	Temp	Wind
Africa S 20 05	Delaware F 20 08	Uganda S 20 08	Salzburg C 13 05	Asia S 20 08	London F 10 05	Uganda S 20 08	Salzburg C 13 05
Algeria S 20 08	Delaware F 20 08	Uganda S 20 08	Salzburg C 13 05	Asia S 20 08	London F 10 05	Uganda S 20 08	Salzburg C 13 05
Algeria S 20 08	Delaware F 20 08	Uganda S 20 08	Salzburg C 13 05	Asia S 20 08	London F 10 05	Uganda S 20 08	Salzburg C 13 05

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SECTION II - COMPANIES AND MARKETS
FINANCIAL TIMES

Monday October 22 1984

RTS GROUP logo and text: ROLLING TRANSPORT SYSTEMS LTD, SERVING SHIPS, PORTS, INDUSTRY

INTERNATIONAL CAPITAL MARKETS

Wall Street upturn boosts Eurobond secondary market prices

BY PETER MONTAGNON, EUROMARKETS CORRESPONDENT, IN LONDON

THE EUROBOND market closed on a distinctly upbeat note last week as secondary market prices roared ahead despite a rush of new issues on Friday.

When the time comes to exercise the warrant, the hope is that the dollar will have fallen, making the paper cheaper to buy for those whose home currency is, for example, Swiss francs or sterling.

per and led by Credit Suisse First Boston and PK Christiania Bank. The principal is to be 20 per cent paid in November with the balance due next May, and the bonds come with warrants to purchase a 12% per cent, seven-year bond. Priced at \$30, the warrants quickly moved to \$36.50.

Finally, in the fixed-rate dollar sector, General Electric of the U.S. launched on Friday a \$200m 11% per cent three-year issue which is extendable to a maximum life of 15 years and priced at 104 1/2 per cent. This price includes a now familiar series of warrants to buy a 10-year 12 per cent bond at any time over the next three years.

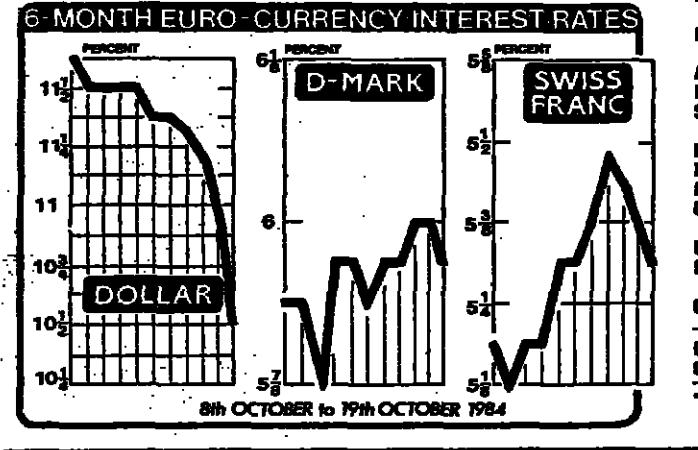
Elsewhere, the fashion for perpetual floating rate notes continued unabated last week with a series of four new issues initiated on Monday by Standard Chartered with a \$300m FRN.

By the end of the week, the fashion was beginning to wear a little thin, however, as some bankers prompted by a \$75m issue for Hill Samuel, began to worry about the wisdom of buying into small issues for relatively less well-known names.

Elsewhere, the fashion for perpetual floating rate notes continued unabated last week with a series of four new issues initiated on Monday by Standard Chartered with a \$300m FRN.

In Switzerland, where the African Development Bank is soon to launch a public issue, secondary market prices ended the week little changed. But a firmer undertone has crept into the market now that it has digested the recent round of interest rate increases by major banks on their medium-term notes.

Table with 3 columns: Oct 19 191.518, High 101.518, Low 98.055, Previous 101.582



NEW INTERNATIONAL BOND ISSUES table with columns: Borrowers, Amount, Maturity, Av. life years, Coupon %, Price, Lead Manager, Offer yield %

Trizec Corporation Ltd. advertisement: Can. \$50,000,000, 13% Senior Debentures to mature October 15, 1989. Lists various banks and financial institutions.

Hudson's Bay Company advertisement: \$50,000,000 (Canadian), 14 1/4% Notes Due 1989. Lists various international banks and financial institutions.

# INTERNATIONAL CAPITAL MARKETS AND COMPANIES

## U.S. BONDS

### Bulls take command as lower short-term rates fuel rally

U.S. BOND prices staged an impressive, almost explosive, rally last week. The rally was fuelled by three major factors — sharply lower short-term money market rates and a widespread perception that the Federal Reserve Board has eased a notch further, the fall in oil prices and new indications of slower U.S. economic growth.

By the close on Friday the bulls were clearly in command. Retail buying was brisk, despite a flood of new Treasury and corporate paper, reflecting a substantial turnaround in market mood. This dramatic change is apparent in the comments of

materials and agricultural commodities as well, raises the spectre of more bad loan problems for the banks.

Mr Frank Mastrapasqua of Smith Barney: "The incentive remains for fostering a more liberal Reserve strategy. More over further weakness in energy prices will add to the woes of many banks that have already experienced energy loan problems. These economic factors in conjunction with the persistence of slow monetary growth have raised expectations of an even less restrictive monetary policy in the months ahead."

Against this backdrop short-term rates fell sharply last week. By the close Treasury bill rates were 30 to 42 basis points lower on the week and private short-term CD rates were as much as 75 basis points lower increasing the prospects for another cut in the prime rate.

In the bond markets the Treasury long bond gained 31 points on the week to close at 106 1/2. At the current price the Treasury long bond is yielding 11.74 per cent, down from 12.05 per cent a week ago, and its lowest yield since early this year. Corporate bond prices on medium- and long-term bonds rose by 1 1/2 and 3 1/2 points respectively while new issue rates fell by as much as 1 percent.

The rally came despite a flood of new issues which is likely to continue providing a crucial test of the depth of the market's current optimism.

In the government sector the Treasury sold \$5.5bn of seven-year notes at an average yield of 12.345 per cent and \$8.75bn of two-year notes at an average yield of 11.73 per cent. This week it will offer \$4bn of 20-year bonds tomorrow, \$7bn of 4-year notes on Wednesday (including up to \$1bn of notes targeted at foreign investors) and the first of their type) and \$3.25bn of 52-week bills on Thursday.

In the corporate sector over \$2bn of new issues were sold last week including \$450m of five and 12-year notes from Citicorp and \$150m of seven-year notes from First Interstate Bancorp. With \$74bn of debt issues sitting on the SEC rule 15 shelf another busy week is expected.

Paul Taylor

U.S. INTEREST RATES

Week to Week	
Fed funds w/ky av	Oct 19
3-month CDs	10.02
1-month T-bills	9.97
30-year Treasury bond	11.82
AAA Utility	12.83
AA Industrial	12.50

Source: Salomon Bros. (Estimates).

Money Supply: In the week ending October 8, M1 fell by \$2.5bn to \$545.5bn from a revised \$548.5bn in the previous week.

senior market economists — although there are still marked differences of opinion on future prospects.

Dr Henry Kaufman of Salomon Brothers: "The Federal Reserve is easing money market conditions further. Its primary motive for doing so is to assure a rebound in the growth of M1 and, in turn, in economic activity following the slowing in real GNP growth in the third quarter to an annual rate of 2.7 per cent. The recent sluggish growth of M1 has left it less than \$4bn above the lower end of the official 1984 target band."

Mr David Jones of Ansley-Lanston: "The Federal Reserve's bias towards an easier stance in coming weeks seems likely to be based on two considerations. First, the latest shortfall in money growth, unless countered by further Fed easing moves, might threaten allowing for the normal time lag of six months or so, an undesirable drop-off in economic activity in the spring of next year. Secondly, the unexpectedly sharp decline in oil prices, combined with continued weakness in world prices for most other raw industrial

## UBS lifts earnings for 1983 by 15%

By John Wicks in Zurich

UNION BANK OF Switzerland has forecast good results this year after reporting a 15.6 per cent rise in net profits for 1983 to a record Sfr 506m (\$199.8m).

Business continued to develop favourably "in virtually all sectors during the third quarter," the bank said.

Income from precious-metal trading was unsatisfactory owing to lack of market activity, but combined income for the first nine months was above the budgeted level and the corresponding 1983 total.

Total assets rose Sfr 3bn to Sfr 127.3bn in the quarter. Up Sfr 12.1bn on the level at the start of the year. Of this increase, however, Sfr 5.2bn was accounted for by the sharp rise in the dollar.

## Pirelli to raise Sfr 116m

By Zurich Correspondent

SOCIETE INTERNATIONALE PIRELLI, the Basle-based holding company for part of the Pirelli group, intends to raise Sfr 116.67m (\$46m) by a rights issue.

This transaction, to be proposed at the November 8 annual general meeting, foresees the issue of 583,333 new ordinary shares at a price of Sfr 200 each. These will be offered to existing shareholders on a one-for-three basis for subscription between November 13 and 20.

## Senior position at United Technologies

UNITED TECHNOLOGIES CORPORATION, has elected Mr Robert F. Daniels, president, chief operating officer and director, to the position of senior vice-president — defence systems in June 1983. Mr Coar was elected a UTC vice president in 1982 and UTC senior vice-president — power

# Greece to settle terms on \$300m loan

BY PETER MONTAGNON, EUROMARKETS CORRESPONDENT, IN LONDON

GREECE is due to announce today the definitive terms of the forthcoming \$300m credit for its telecommunications agency, OTE.

The imminence of this deal began to dominate the Eurocredit market at the end of last week as 15 international banks were summoned to Athens to discuss the credit with the Bank of Greece. The evidence suggests that the banks have steered Greece towards a flat 4 per cent margin over Eurodeposit rates throughout the credit's seven-to-eight-year life.

Today's announcement, however, will mark the culmination of a lengthy process that has seen some tough wrangling over the terms. Greece has been pressing for a 1/2 per cent margin, at least for the first four years of the deal.

A side issue has also been the question of the inclusion of transferable loan instruments (which allow the credit to be sold into the secondary market) in the sterling portion of the deal. About half the total is to be provided in dollars with the balance in sterling and Ecu.

Lead managers ran up against Bank of England guidelines which treat such transferable loan instruments as if they were securities. To avoid conflict with the domestic market, the British central bank would therefore prefer credits in sterling which bear such instruments to have a maturity of at least five years. This made it harder to set a grace period on the Greek deal as the original idea had been an eight-year credit with repayments starting after a four-year grace period.

This aspect of the credit will be closely scrutinised when the terms are revealed as bankers want to see how far the Bank of England has been flexible in the application of its guidelines.

The Bank is also under pressure at the moment in another area, that of sterling-denominated Eurobonds which many bankers would like to launch as a means of enhancing and expanding London's role in this growing market.

In the OTE loan it is, however, the margin above all that will attract the most attention. In contrast to some other countries, which have been able to raise funds on Eurocredit lines in the Eurocredit market, Greece faces a certain degree of resistance from lenders, some of whom are at or near their present limits for the country.

In this situation, a deal has to be very carefully priced although the reason for this is specific to Greece rather than to general reluctance on the part of lenders. Indeed the performance of other loans in the

market suggests quite the opposite. The \$50m credit for Electrodade de Portugal was, for example, doubled to \$100m last week, while the \$500m facility for Credit National attracted subscriptions of \$740m, although it is not to be increased.

Elsewhere, two new euro-commercial paper issues were launched last week — for IFF Aquitaine, which is raising up to \$200m, and for St-Gobain, with a programme of up to Ecu 50m. Banque Indosuez and Lehman Brothers will be exclusive dealers on the first and the French bank sole dealers on the second.

These one-year renewable programmes are similar to U.S. commercial paper issues, although they are un-rated. This is becoming a sensitive issue in the commercial paper and Euronote market for corporate borrowers as the lack of rating is believed to inhibit some corporate treasurers from buying the

paper. As a result, most of it still finds its way into bank portfolios, and some bankers argue that a rating system is needed to broaden investor interest.

The Bank of Italy, meanwhile, declined to comment on Friday on rumours that Italy would shortly launch a large floating rate note. But Italy has been getting offers for such a deal, the proceeds of which would be used to prepay part of the \$1bn credit arranged in 1981 for the former regional development agency, Cassa per il Mezzogiorno.

As the Cassa has recently been abolished, the credit will need to be repaid around the end of the year. Bankers believe Italy will seek to substitute it with another borrowing, as the amount is rather large, and that is why the country's eyes are now turning towards the FRM market.

## Mohawk considers bid proposal

BY LOUISE KEOHE IN SAN FRANCISCO

MOHAWK DATA Sciences, the financially troubled New Jersey computer systems manufacturer, is evaluating a proposal for the acquisition of the company made by a group of shareholders led by Mr Asher B. Edelman, a New York arbitrageur who controls over 8.8 per cent of the company's stock.

Mr Edelman has offered to become chairman of Mohawk and take "an active role in finding additional operating management" for the company. Alternatively he has offered to set up a new company to acquire Mohawk Data. Terms of the offer are \$300m in debentures and \$50m in preferred stock. Payment of interest on the debentures and dividends on the stock would be subject to earnings contingencies of the new company.

The offer follows several months of negotiations between Mr Edelman and the management of Mohawk Data Sciences. The investor first made his intentions to gain control of the company known in August shortly after Mohawk reported losses of \$49.6m for fiscal 1984

## Transamerica plunges

BY PAUL TAYLOR IN NEW YORK

TRANSAMERICA, THE San Francisco-based financial services group, has reported sharply lower third quarter earnings blaming the need to strengthen loss reserves on its property/casualty insurance operations by \$33m after tax.

The group said its third quarter net earnings plunged to \$5.57m or 9 cents a share compared to \$55.5m or 87 cents a share in the same period last year on revenues which increased 12.5 per cent to \$1,598m from \$1,420m.

The latest results left nine-month net earnings of \$121.4m or \$1.87 a share trailing the \$151.2m or \$2.49 a share earned in the same period of 1983 despite revenues which increased to \$3,992m.

The results highlight the continuing problems of the property and casualty insurance business in the U.S. Several major insurers have been forced to bolster loss reserves and report substantial earnings declines or net losses.

Mr James Harvey, chairman, said: "All of our major property and casualty lines, with the obvious exception of our property/casualty activities,

## INTERNATIONAL APPOINTMENTS

BY PAUL TAYLOR IN NEW YORK

manager for the company's international interests. He joined ASMCO when it acquired the international interests of Hudson's Bay Oil and Gas Co in 1983. He joined Hudday in 1970.

Mr Fumio Watanabe has become chairman and is succeeded as president by Mr Haruo Takeda. Mr Takeda has been appointed director of IONIAN AND SCOTTISH MARINE OIL as general manager. This will be followed in October with the opening of the company's Bogota office. He will be responsible for managing the acreage recently acquired by LASMO in the country. Through an agreement earlier this year, it obtained interests in the Bogota area. Mr Watanabe was previously field liaison

## Senior position at United Technologies

BY PAUL TAYLOR IN NEW YORK

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## FT INTERNATIONAL BOND SERVICE

BY PAUL TAYLOR IN NEW YORK

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This announcement appears as a matter of record only.

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**Union Bank of Switzerland (Securities) Limited** **S.G. Warburg & Co. Ltd.**

**Amro International** **BankAmerica Capital Markets Group** **Bank Gutzwiller, Kurz, Bungenier (Overseas)**  
**Bank Heusser & Cie. AG** **Bankhaus Herrmann Lampe** **Bank Leu International Ltd.** **Banque Bruxelles Lambert S.A.**  
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October 1984



TECHNOLOGY

EDITED BY ALAN CANE

NATIONAL PROWESS IN LIFE SCIENCES IS BECOMING A STRATEGIC ISSUE

French 'falling behind in biotechnology'

BY DAWD MARSH IN PARIS

FRANCE WILL have to step up considerably financial and industrial efforts in the biotechnology sector if it is to have any chance at all of catching up with companies in the U.S. or Britain.

That is the bleak message from a comprehensive survey of the French biotechnology industry just published by the Biofutur consulting group.

According to the author of the study, M Laurent Faibis, the general weakness of companies' research efforts—in spite of some isolated examples of success for specialised groups—is a principal factor behind France's biotechnology problems.

With only three large French pharmaceutical groups—Rhône-Poulenc, Sanofi and Roussel-Uclaf (55 per cent owned by Hoechst) engaged significantly in biotechnology, he says, companies launching into the sector are too few and generally ill-prepared to make an international impact.

Around 30 foreign pharmaceutical companies are making a research and development effort comparable or superior to that of the three French companies, with a number of companies such as Dupont and Monsanto threatening to make their entry from the chemical sector.

In the traditionally important French agriculture and food sector, the "menace" from the internationalisation of activities of foreign groups—especially from the U.S. and Japan—is ever greater than in the health sector.

"The immense majority of French agro-food companies have neither a sufficient size nor the necessary scientific and human resources to prepare for the future," the report says grimly.

Increasing number of multinational non-food companies will be harnessing biotechnology to establish technological dominance in the food business.

As for the creation of small specialised companies in biotechnology, M Faibis says France has failed to provide the right environment for such groups to prosper—in contrast not only with the U.S. but also with other countries including Britain, Israel and Australia.

Venture capital techniques are starting to find a home in France to support such entrepreneurial efforts, but there is still a notable lack of suitable projects to attract cash. M Faibis cites the examples of leading French risk capital organisations—such as Sofinova, Paribas, or the venture capital arm of Elf Aquitaine—channeling funds predominantly into the U.S. because of the lack of French outlets.

Although the report concentrates on the present state of the biotechnology scene rather than making proposals to improve it, M Faibis has one suggestion—that France should take a leaf out of the Japanese book. Japanese companies' attitude towards biotechnology—as also in the electronics and

computer sector—has often been more open towards gaining access to foreign technology by concluding licensing accords with groups from abroad, normally from the U.S., he says.

"They say: 'We realise the game is over for the present generation of products.' But by developing products under licence, they conserve their part of the domestic market—and prepare for the future by building up know-how for second or third generation products in 10 years time."

The report indicates that this type of second-best solution represents over the next few years at least, the only realistic option for many French groups.

It also points out that the Japanese biotechnology effort does not need to rely on outside funding, from venture capitalists because of the extreme strength of individual corporate research budgets, with some agro-food companies devoting 30 per cent or more of their research spending on biotechnology. Taking a case by case look at France's industrial efforts, the report says that only the three pharmaceutical groups, plus Elf Aquitaine, have a "prime role" in biotechnology.

The BSN Gervais Danone food group, Lafarge Coppee in cement and champagne producers Moët Hennessy are held to have "very important interest" in the area, whereas water groups Compagnie Generale des Eaux and Societe Lyonnaise des Eaux, Fernod Ricard in drinks and Bel in cheeses are also given a mention for their activities.

One of the few cash-rich groups in the list is Elf, which has mounted its biotechnology push on the back of its abundant liquid resources. It is the only international oil group to have made a decisive bid to gain a foothold in this area.

Elf is following a variety of research avenues through its Sanofi pharmaceutical subsidiary, and the Labège laboratory which has become operational this year for work in areas like aromas and seeds as well as drugs.

Elf also has a stake in Transgene, the Strasbourg genetic engineering company (along with Paribas, BSN and Moët Hennessy) and several recently-acquired smaller groups.

Overall in the health sector, M Faibis terms the situation of French companies "worrying" compared with the dynamism in the U.S., Japan and Britain and an investment drive by the big West German chemical and pharmaceutical groups.

And, with many of France's pharmaceutical companies still provincial in size (one third of the roughly 300 groups have less than 100 employees and the biggest, Rhône-Poulenc, is 15th in the world league) the report claims that concentration in this sector is taking place only with considerable delay compared with other countries.

One recent example of long-overdue concentration is the link-up announced in September between Rhône-Poulenc's Merieux subsidiary and Institut Pasteur Production, jointly owned by Sanofi and the Pasteur research institute, which will create a world-scale vaccine producer ranking alongside Merck of the U.S.

The Biofutur survey makes clear that more pooling of resources—both within and outside France—will be needed if France wants to be anywhere near the first division of the biotechnology league of the 1990s.

\* *Biotechnologies in France*, Biofutur, 56 Rue de l'Université 75007 Paris, 392 pages, FFr 4,500 (incl tax).

Energy

Charger for military vehicles

TANKS and other military vehicles can charge up their batteries, without fear of detection, with the aid of a set of solar cells devised by a company in London.

The solar power roll, developed by PAG, is a set of 10 solar panels attached to a canvas backing. It is carried by a tank rolled-up on top of the vehicle.

According to the company, the panels come into their own when the tank stays stationary for a long period. During this time, the vehicle's batteries (for starting its engines and for communications hardware) need to be kept charged.

Normally, this task is left to conventional engines, for example powered by petrol. But to leave such an engine on for long periods increases the chances that opposing forces will detect the tank.

The solar power roll produces a peak current of 5.5 amps at 28 volts. It requires some degree of daylight and the company says could be particularly useful in deserts.

Satellites

Forestry aid from the sky

SNAPSHOTS of the earth taken from outer space have helped forestry workers in Australia to plot the recovery of woodland damaged during last year's disastrous fires.

With satellite pictures from the U.S.'s Landsat remote-sensing system, workers plotted which areas of forest were hardest hit by the conflagration, which centred on the central highlands of Victoria.

As well as helping replanting, the information from the exercise enabled workers to calculate regions of woodland from which undamaged timber could be salvaged. With the satellite data, which was supplemented by information from aerial surveys, researchers worked out how to obtain from the area some 600,000 cubic metres of logs and pulpwood worth A\$7.5m (£5m).

The forest fires early last year, a result of a prolonged drought in 1982, severely burnt large areas of mountain ash. In the central highlands alone, 45,000 hectares of state-owned forest were damaged.

Mountain ash trees, even if not burnt, are killed by heat. The wood can be used in industry only if it is recovered within two years. After this time, insect attack and decay renders the timber useless.

To assess the damage, workers at Victoria's Department of Conservation, Forests and Lands in Melbourne used several different remote-sensing techniques. The researchers, who described their work at a conference in remote sensing in Paris earlier this month, used aerial photographs together with pictures from the multi-spectral scanner on the Landsat-3 satellite.

With the data, the workers produced plans for reseedling of burnt areas. They also categorised fire-damaged mountain ash into seven different classifications.

Distribution

Blue Circle system for cement trucks

BLUE CIRCLE is installing a filling system for road tankers at its Carlisle depot that drivers will be able to operate for themselves.

The company is automating three existing Solidate Lynx weighbridges so that drivers can control with a computer the way that cement is poured into the storage vessels in their vehicles.

The driver will move on to a loading gantry and insert into a keyboard instructions on how much cement he wants loaded. A computer controls the filling operation from bulk tanks, shutting off a valve when a required load weight is achieved.

Wellcome attacks liver cancer with Biogen vaccine

BY STEPHANIE YANCHINSKI IN LONDON

ONE OF Britain's largest pharmaceutical manufacturers has joined forces with a major biotechnology company to bring what could be the first vaccine against cancer to market.

The Wellcome Foundation last week announced that it had acquired the rights to manufacture and market a genetically engineered vaccine against hepatitis B virus, developed by the Swiss American biotechnology company Biogen.

Hepatitis B is a chronic infection of the liver which can afflict, among others, hospital workers. Other groups at risk include homosexuals and drug addicts.

Hepatitis is also associated with liver cancer, particularly in the Third World. A vaccine against the infection could prevent the cancer too.

Biogen has signed over the rights to the technology for producing hepatitis vaccine on a commercial scale. A subsidiary of its British partner, Wellcome Biotechnology Ltd, will manufacture the vaccine, and start human clinical trials next year.

This acquisition brings Wellcome into direct competition with Merck, Sharp, and Dohme (MSD), the American drug giant, which is further down the road towards a marketable vaccine. These two leaders in vaccine manufacture see this as the first of a new generation of safer, more effective vaccines, prepared by genetic engineering, and useful against a vast number of diseases which at the moment have no antidote.

Hepatitis B is one of three forms of severe jaundice heralded by fever, chills, and a general weakness. Chronic cases develop

cirrhosis of the liver and hepatocellular carcinoma, a form of liver cancer. Health workers, physicians and dentists can contract the disease from their patients and vaccination is recommended as well for other "high" risk groups.

The problem is even more severe in the Third World. Liver cancer is one of the most frequent occurring tumours in parts of Africa and Asia. Over 170m people carry hepatitis throughout the world.

Children are especially at risk, for the virus can be passed on during pregnancy, usually via maternal blood swallowed at birth. Studies in China and Japan, show that if an infant is vaccinated within 48 hours of birth then the carrier state can be prevented.

Vaccines are traditionally prepared from whole microbes

which have been killed or severely weakened. These microbes possess proteins on their outer coats called antigens which are unique to them and which provoke the human body to produce antibodies against the virus. These antibodies circulate in the blood for years and build up the body's defences against a future massive infection.

A few years ago MSD launched what was the first hepatitis vaccine, prepared from extracts of infected human blood. In this process they laboriously isolate just one "surface antigen" from the wetter of other blood proteins.

This is followed by scrupulous purification and testing. Manufacture of a single batch takes 12 months and a course of three doses costs \$100, well beyond what most health ser-

vices in the Third World can afford.

Fear of contamination by the virus carrying the "gay syndrome" AIDS has hurt sales in the United States, MSD's major market. This is a very remote possibility, but the company has turned to genetic engineering to produce a second generation vaccine which it can assure its customers is totally safe and as effective as its current product.

The idea which Merck and Biogen pursued is to insert the gene coding for the surface antigen into yeast cells. These tiny cells can be easily grown in fermenters. Obeying the instructions of the new genes, they produce vast quantities of the surface antigen protein which can be purified and formulated into a vaccine.

This sounds simple but these proteins, which are long, com-

plicated molecules, must "kink" or "fold up" in just the right way, or they will lose their biological activity. Merck claims that through a combination of clever genetic engineering, and processing expertise, their hepatitis particle is nearly identical in structure and shape to the one isolated from human blood.

MSD's research programme, started three years ago with Chiron, a small genetic engineering company in San Francisco, has yielded a vaccine which protected chimpanzees against the disease.

Recent studies in thirty-seven healthy human volunteers showed all of them possessed antibodies against the virus six months later. Merck is now building a pilot plant, and planning to test the vaccine in children, and in health workers.

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### CONSTRUCTION CONTRACTS

## £7.5m batch for Trentham

G. PERCY TRENTHAM has won around £7.5m worth of work. At Walthamstow a £600,000 design and construction project for an industrial estate comprising roads, landscaping and 16 industrial units. The contract has started with completion date scheduled for March. For just over £750,000 at Wokingham for Matthew Investments a 31,000 sq metre steel-framed industrial unit is to be built for completion in May. Adjacent to the River Kennet and Avon Canal at Newbury at just over £600,000 a site clearance contract and site preparation has been awarded for further buildings for IAZ International (UK). An unusual specification demonstrating the difficult site conditions is the provision of a 12ft rowing boat for use by the resident engineer. Completion date is December. 1984. A two-storey hostel for the mentally handicapped is to be built for Buckinghamshire County Council at High Wycombe. Valued at about £250,000 it is scheduled for completion in August. A 1.5-month contract has been won in Reading for MEPC King's Road, MEPC Projects and Fairfield Properties. Valued at over £600,000 for provision of 25 flats and maisonettes in Queen Street, Edinburgh for Culverin Property Services a £350,000 contract has been placed for alteration and refurbishment of a four-storey Georgian-style block. Completion is scheduled for May. A design and construct package has been won for over £4.35m for a high tech industrial development at Harwardens Road Municipal Mutual Insurance. The scheme comprises six lettable units each with offices. The industrial units have been designed so that an office space of up to 40 per cent can be created. Programme completion date is November 1985.



Shepherd Construction has secured a contract worth over £4m to build an Asda Superstore in Harrogate, for Associated Dairies Group. It will provide around 40,000 sq ft of retail space, together with extensive car parking provision. The architect has designed a building which has hypermarkets. Natural stone facings and pitched, slate roofs, are specified and the superstore's well-brken outlines will be reminiscent of traditional residential terraces. The contract is scheduled for completion in August next year. This artist's impression of the store, to be built in Bower Road, clearly shows the "terraced houses" appearance.

### Computer centre for Marriott

ROBERT MARRIOTT has been awarded a contract in Wellington to build a computer centre for the Anglo Building Society. The 63-week contract is due to start today with completion and hand-over programmed for January 6, 1988. Valued in the region of £2m, the project comprises the erection of a two-storey computer centre. Construction will be steel framed on reinforced concrete foundations with insitu reinforced concrete beams to the first floor. The building will be clad with insulated metal-faced panels above brick and block cavity walls. The roof will consist of flat beams covered with insulated metal decking with a flexible membrane finish with specialist services.

N. G. BAILEY & CO has won orders worth a total of about £32m. These contracts include electrical installation work at retail store outlets for the following: total value £200,000; factory for Birds Eye

Walls at Gloucester; Courage Brewery premises at Bristol and Reading; factory for Bendix Westinghouse at North Bristol; factory centre at West Swindon; new premises for Bristol Polytechnic; computer suite for the Royal United Hospital at Bath; and office developments at B. H. Pearce, of Bristol.

SIR ALFRED MACALPINE (NORTHERN) has been awarded a design and build contract worth £250,000 by Rubery Owen Rockwell at Llay, Cwtyd. Work involves construction of a 1,135 square metre extension to the existing factory over the site of an old cattery.

The Southampton-based BRIMAC has been awarded a £2m design and build contract for a £12m General special cable division factory at Chickenhall Lane, Eastleigh, Hampshire. The group has also been awarded a contract to build a contract for Cysnam of GB fifth floor office extension at Gosport, Hampshire, value £800,000. Other notable contracts include Ultrascan and BP Oil projects worth £500,000, with works for the expanding Missbrook & Weston Food group bringing the current workload to £5m.

has contracts totalling £3.3m. Largest is the £2m redevelopment of Hartford Motors premises at Lincoln. Incorporating new garages, workshops, showrooms and petrol station and creating the shell for a new supermarket. Civil engineering contracts totalling £1.1m include improvements to the sewage treatment works at Knotstrop, Leeds; water reclamation works extensions at Edwirth; and construction of concrete roads for Kingston upon Hull City Council.

LESSER BUILDING SYSTEMS has won orders totalling over £2m. Design and build contracts from the hotel market for instance bedroom units. Comfort Lodge (UK) has ordered 881 bedroom units for three new hotels in Bristol and Bath. The group has also been awarded a contract for a £2m two-storey office block at a Ministry of Defence site for Fleetsey (UK) shire; site offices for Marples Ridgway, the main contractor which is building the District General Hospital in Bournemouth; office for Fleetsey (UK) at Titchfield in Hampshire; and an office complex for main contractor Foster Wheeler at Esso in Fawley.

### WEEK'S FINANCIAL DIARY

The following is a record of the principal business and financial engagements during the week. The board meetings are mainly for the purpose of considering dividend and other matters and do not always include whether dividends concerned are interim or final. The sub-divisions shown below are based mainly on last year's timetable.

Today	Tomorrow	Wednesday	Thursday	Friday
<p><b>BOARD MEETINGS</b></p> <p>Reading Distilleries High-Speed Services Spectrum Thomas Nationwide Transport Warwick and Stratford</p> <p><b>DIVIDEND AND INTEREST PAYMENTS</b></p> <p>Anglo-Spanish Int. Tr. £2.50 BCCI £1.50 Cairn £1.50 Citicorp £1.50 Crest £1.50 Deutsche Bank £1.50 E.ON £1.50 Environ £1.50 Globe £1.50 Hutchinson £1.50 J.P. Morgan £1.50 K.P. Paper £1.50 Lloyds Bank £1.50 Mollinath Limited £1.50 Edward Mann &amp; Co. £1.50 Mehraj and Sons Ltd. £1.50 Midland Bank £1.50 Morgan Grenfell £1.50 National BK of Kuwait £1.50 National Business £1.50 National Westminster £1.50 Norwich Gen. Tr. £1.50 People's Tr. &amp; Sv. Ltd. £1.50 R. Raphael &amp; Sons £1.50 S. S. Refson &amp; Co. £1.50 Roxburgh Guarantee £1.50 Royal BK of Scotland £1.50 Royal Trust Co. Canada £1.50 United Bank of Kuwait £1.50 J. Headard Charterred £1.50 Trade Dev. Bank £1.50 TCB £1.50 Trustee Savings Bank £1.50 United Bank of Kuwait £1.50 Williams &amp; Glyn's £1.50 United Mizrahi Bank £1.50 Volksbank Limited £1.50 Westpac Banking Corp. £1.50 Whiteway Laidlaw £1.50 Williams &amp; Glyn's £1.50 Winttrust Secs. Ltd. £1.50 Yorkshire Bank £1.50</p> <p><b>COMPANY MEETINGS</b></p> <p>Accor Properties £21.247 Pavilion Road, Dept. 12.00 D.P.E. Howard Hotel, Tenebe Place, WC. Dunlop Group, 120, High Street, Chesham, Bucks Equilibrium Jewellery, Agona House, 516, High Street, London, WC2E 9UR Healmond, 10, Grosvenor Gardens, London, W1A 3LF Kerrison, 10, Grosvenor Gardens, London, W1A 3LF Palmerston Int'l, 10, Grosvenor Hall, Kings Cross, N.1, WC1A 3LF</p>	<p><b>BOARD MEETINGS</b></p> <p>Alanco British Energy British Aircraft Trust British Iron Mickelthwait Tottenham Int'l Trust Sigsbee (Cairn)</p> <p><b>DIVIDEND AND INTEREST PAYMENTS</b></p> <p>Anglo-Spanish Int'l Tr. £2.50 BCCI £1.50 Cairn £1.50 Citicorp £1.50 Crest £1.50 Deutsche Bank £1.50 Environ £1.50 Globe £1.50 Hutchinson £1.50 J.P. Morgan £1.50 K.P. Paper £1.50 Lloyds Bank £1.50 Mollinath Limited £1.50 Edward Mann &amp; Co. £1.50 Mehraj and Sons Ltd. £1.50 Midland Bank £1.50 Morgan Grenfell £1.50 National BK of Kuwait £1.50 National Business £1.50 National Westminster £1.50 Norwich Gen. Tr. £1.50 People's Tr. &amp; Sv. Ltd. £1.50 R. Raphael &amp; Sons £1.50 S. S. Refson &amp; Co. £1.50 Roxburgh Guarantee £1.50 Royal BK of Scotland £1.50 Royal Trust Co. Canada £1.50 United Bank of Kuwait £1.50 J. Headard Charterred £1.50 Trade Dev. Bank £1.50 TCB £1.50 Trustee Savings Bank £1.50 United Bank of Kuwait £1.50 Williams &amp; Glyn's £1.50 United Mizrahi Bank £1.50 Volksbank Limited £1.50 Westpac Banking Corp. £1.50 Whiteway Laidlaw £1.50 Williams &amp; Glyn's £1.50 Winttrust Secs. Ltd. £1.50 Yorkshire Bank £1.50</p>	<p><b>BOARD MEETINGS</b></p> <p>Alanco British Energy British Aircraft Trust British Iron Mickelthwait Tottenham Int'l Trust Sigsbee (Cairn)</p> <p><b>DIVIDEND AND INTEREST PAYMENTS</b></p> <p>Anglo-Spanish Int'l Tr. £2.50 BCCI £1.50 Cairn £1.50 Citicorp £1.50 Crest £1.50 Deutsche Bank £1.50 Environ £1.50 Globe £1.50 Hutchinson £1.50 J.P. Morgan £1.50 K.P. Paper £1.50 Lloyds Bank £1.50 Mollinath Limited £1.50 Edward Mann &amp; Co. £1.50 Mehraj and Sons Ltd. £1.50 Midland Bank £1.50 Morgan Grenfell £1.50 National BK of Kuwait £1.50 National Business £1.50 National Westminster £1.50 Norwich Gen. Tr. £1.50 People's Tr. &amp; Sv. Ltd. £1.50 R. Raphael &amp; Sons £1.50 S. S. Refson &amp; Co. £1.50 Roxburgh Guarantee £1.50 Royal BK of Scotland £1.50 Royal Trust Co. Canada £1.50 United Bank of Kuwait £1.50 J. Headard Charterred £1.50 Trade Dev. Bank £1.50 TCB £1.50 Trustee Savings Bank £1.50 United Bank of Kuwait £1.50 Williams &amp; Glyn's £1.50 United Mizrahi Bank £1.50 Volksbank Limited £1.50 Westpac Banking Corp. £1.50 Whiteway Laidlaw £1.50 Williams &amp; Glyn's £1.50 Winttrust Secs. Ltd. £1.50 Yorkshire Bank £1.50</p>	<p><b>BOARD MEETINGS</b></p> <p>Alanco British Energy British Aircraft Trust British Iron Mickelthwait Tottenham Int'l Trust Sigsbee (Cairn)</p> <p><b>DIVIDEND AND INTEREST PAYMENTS</b></p> <p>Anglo-Spanish Int'l Tr. £2.50 BCCI £1.50 Cairn £1.50 Citicorp £1.50 Crest £1.50 Deutsche Bank £1.50 Environ £1.50 Globe £1.50 Hutchinson £1.50 J.P. Morgan £1.50 K.P. Paper £1.50 Lloyds Bank £1.50 Mollinath Limited £1.50 Edward Mann &amp; Co. £1.50 Mehraj and Sons Ltd. £1.50 Midland Bank £1.50 Morgan Grenfell £1.50 National BK of Kuwait £1.50 National Business £1.50 National Westminster £1.50 Norwich Gen. Tr. £1.50 People's Tr. &amp; Sv. Ltd. £1.50 R. Raphael &amp; Sons £1.50 S. S. Refson &amp; Co. £1.50 Roxburgh Guarantee £1.50 Royal BK of Scotland £1.50 Royal Trust Co. Canada £1.50 United Bank of Kuwait £1.50 J. Headard Charterred £1.50 Trade Dev. Bank £1.50 TCB £1.50 Trustee Savings Bank £1.50 United Bank of Kuwait £1.50 Williams &amp; Glyn's £1.50 United Mizrahi Bank £1.50 Volksbank Limited £1.50 Westpac Banking Corp. £1.50 Whiteway Laidlaw £1.50 Williams &amp; Glyn's £1.50 Winttrust Secs. Ltd. £1.50 Yorkshire Bank £1.50</p>	

### APPOINTMENTS

## Pilkington board changes

Mr David Roberts has been appointed chairman of the ophthalmic division of PILKINGTON in addition to his present responsibilities as chief executive officer. Sir Richard Worsey has been made chairman of the electro-optical division, in addition to his present responsibilities as chief executive officer. Dr Ted Ellis becomes technical director and Mr Alex Wilson financial director of the ophthalmic division board.

STC has appointed Mr Duncan Lewis to the newly-created position of director, business intelligence and planning. He was administration assistant to the company's executive board. Mr Lewis was secretary of the electronics economic development committee in the National Economic Development Office from 1979 until he joined STC in 1982.

CROWN LIFE ASSURANCE GROUP has promoted Mr Nigel Barnard as broker sales director, and Mr Martyn Reid as assistant broker sales director (group). These promotions are part of a personal financial planning and employee benefits divisions being brought together under one sales broker sales arm — the broker sales division.

Mr Eric Carter has joined the board of GOTIA (UK), wholly owned subsidiary of Gotabank of Sweden, as a non-executive director. Mr Carter is the former deputy group chief executive (international) business of National Westminster Bank. He is a director of National Westminster Bank, International Westminster Bank and deputy chairman of Handelsbank NV, Zurich.

Mr Tony Matthews has been appointed sales director of DORIC COMPUTER SYSTEMS.

Mr Don McCrickard has been appointed chairman of UDT BANK in Eire, which is 75 per cent owned by United Dominions Trust and 25 per cent by the Irish Life Assurance Company. Mr McCrickard took over as managing director of the United Dominions Trust group a year ago after 12 years with the American Express Company, where he was successively chief executive of credit card operations in the UK and the Far East. He is a member of the executive committee of the TSB group, chairman of Swan National, a director of Trustcard Visa, both of which are group companies.

Following the acquisition of the Bromley Group of Companies, Mr Eric Bromley has been appointed to the board of ERKINE HOUSE.

Mr Malcolm Stuart Allen has been appointed senior representative for UNION BANK OF NORWAY group in London. He is currently managing international commercial banking department of Privatbanken, London.

### BUSINESSMAN'S DIARY

#### UK TRADE FAIRS AND EXHIBITIONS

Current	International Exhibition of Technology, Equipment and Service Banking Insurance and Finance (until October 24) (01-708 6707)	International Exhibition of Contract Textiles Exhibition (01-572 2121); and International Furniture Show (021-750 4141) NEC, Birmingham
October 23-26	London Business Equipment Show (01-647 1001) Earls Court October 26-November 3 (01-680 7525)	International Exhibition and Conference — INTERFLOW (01-680 7525) Marrogate
November 5-8	6th Offshore Inspection, Repair and Maintenance Conference and 6th AODC Underwater Engineering Symposium (01-549 5631) Aberdeen	International Exhibition on Computers and Communications in Investment, Banking and Insurance (01-583 4366) Barbican Centre
November 10-18	Daily Mail International Ski Show (0634 660822) Earls Court	International Construction Equipment Congress and Exhibition (01-637 2400) NEC, Birmingham

#### OVERSEAS TRADE FAIRS

October 23-27	International Electrical and Electronic Engineering Exhibition — ENEX ASIA (01-583 1158) Singapore	November 11-15	Industrial Development Exhibition — SAUDI INDUSTRY (01-356 1951) Riyadh
October 29-31	Trade Fair for Clothing Textiles — INTERSTOFF (01-734 0543) Frankfurt	November 16-25	International Trade Fair (Consumer Goods) — FINNCONSUM (01-486 1951) Helsinki
October 30-November 5	International Tourism, Hotel Facilities & Construction Materials Exhibition INTER HOTEL (01-235 2999) Beijing	November 18-22	Middle East Building Materials and Construction Industry Exhibition — ARABUILD (01-496 0400) Bahrain
November 1-3	International Exhibition of Office Equipment Furniture and Stationery — OFFICE (01-683 1158) Bangkok	November 21-23	Offshore Industries Exhibition and Conference — HOLLAND OFFSHORE (01-437 2175) Amsterdam
October 23-25	FT Conference: Electronic Financial Services (01-621 1355) Barbican Centre	October 31-November 1-2	Intec: Small computers in Europe conference (01-637 9988) Royal Garden Hotel, W8
October 23-25	Frost and Sullivan: Motivating and managing computer personnel (01-486 0334) Holiday Inn Hotel, London	November 1	City Business Conferences: Swap financing (01-727 6120) Gaziers Hall, SE1
October 23	Leungnia Seminars: Pensions — problems in practice — (allowers and insolventcies (01-242 2545) Barbican, EC2	November 5	IMEDE: Developing world-class management for world-class banks (010 4121 267112) Lausanne
October 24-25	British Institute of Management: Annual international conference — managing in tomorrow's world (06363 4222) Barbican, EC2	November 6	Simon & Coates: Seminar on economics and investment prospects for 1985 (01-888 3644) Barbican, EC2
October 29-30	Leungnia Seminars: Pensions — problems in practice — (allowers and insolventcies (01-242 2545) Barbican, EC2	November 7	Business Briefings: ECU — The Commercial use of the European Currency Unit (01-381 1284) City Conference Centre, EC3
October 29-30	Business Research International: The London international corporate finance conference 1984 (01-637 4383) Royal Garden Hotel, W8	November 9	FT Conference: The second professional personal computer conference (01-621 1355) Royal Lancaster Hotel, W1
October 29-31	Conference Services: Convention (The Bureau International de la Récupération (01-584 6226) Grosvenor House Hotel, W1	November 9	The Institute for Fiscal Studies: Competition policy (01-573 7545) Regent Palace Hotel, W1
October 30	Institute of Taxation: Tax and financial planning opportunities — 1984-85 (01-935 847) London	November 14	The Henley Centre for Forecasting: Corporate plans — forecasts for business (01-353 9961) Dorchester Hotel, W1
October 31	Institute of Directors: The insurance jungle — a way through (01-839 1333) 116, Pall Mall, SW1	November 14	Business Briefings: Manufacturing — a CFS Conference (01-351 2924) CFS Conference Centre, W1

Anyone wishing to attend any of the above events is advised to telephone the organisers to ensure that there has been no change in the details published.

## Diary of parliamentary business this week

Monday	Tuesday	Wednesday	Thursday	Friday
<p><b>Commons:</b> Debate on the army. Treasury and Civil Service Select Committee on the structure and form of Government Expenditure Report. Lords: Ordinance Factories Bill, Third Reading. Debates on EEC report on youth training and on voluntary services.</p>	<p><b>Commons:</b> Hans Society Grant (Scotland) No 2 Order. Fire Services (Northern Ireland) Order. Scottish Affairs Select Committee: Highlands and Islands Development Board. Lords: Co-operative Development Agency and Industrial Development Bill, Third Reading. Debates on EEC regional development fund and on gas and oil operations planning control.</p>	<p><b>Commons:</b> Ordnance Factories and Military Services. Bill — consistency of any Lords amendments. Social Services Select Committee: Community care with special reference to adult mentally ill and mentally handicapped. Lords: Short debate on bill to extend British Summer Time if mining disputes continues.</p>	<p><b>Commons:</b> Police and Criminal Evidence Bill — Lords amendments. Motion to amend education mandatory regulations 1984. Debate on White Paper on the buses.</p>	<p><b>Commons:</b> Debate on higher education.</p>

**'Country' stamps due** NEW "COUNTRY" stamps for Scotland, Wales and Northern Ireland will be issued by the Post Office next Monday. The 13p, 17p, 22p and 31p stamps will have the same basic design as national definitives bearing the Queen's head and value but will include the Scottish Lion, the Welsh Dragon or the Red Hand of Ulster.

**Docklands 'potential'** NEW TECHNOLOGY could create many jobs and revitalise London's Docklands, Mr Peter Morrison, Minister for Employment, said at yesterday's opening of the Milltech Centre in the Isle of Dogs Enterprise Zone. He said Paul Sykes (Development)'s £1m investment was a vote of confidence in the Government's enterprise zone policy.

**WE THE LIMBLESS, LOOK TO YOU FOR HELP**

We come from both world wars. We come from Korea, Kenya, Malaya, Aden, Cyprus, Ustior and from the Falklands. Now, disabled, we must look to you for help. Please help by joining our Association. BLESMA looks after the limbless from all the Services. It helps to overcome the shock of losing arms, or legs or an eye. And, for the severely handicapped, it provides Residential Homes where they can live in peace and dignity. Help the disabled by helping BLESMA. We promise you that not one penny of your donation will be wasted.

**BLESMA**  
BRITISH LIMBLESS  
EX-SERVICE MEN'S ASSOCIATION

Give to those who gave — please  
The Chairman, BLESMA,  
Midland Bank Ltd, Department FT,  
60 West Smithfield, London EC3A 9DX

## GENERAL SHOPPING S.A.

### In Liquidation

Société Holding pour le Commerce de Détail  
5, Boulevard Royal, Luxembourg

NOTICE IS HEREBY GIVEN that the

### ANNUAL GENERAL MEETING

of General Shopping S.A. in liquidation will be held in the conference room of Banque Internationale à Luxembourg S.A., 2, Boulevard Royal, Luxembourg, on 9th November 1984 at 11.00 a.m.

AGENDA

- Report of the Board of Liquidators on the progress of the liquidation.
- Miscellaneous.

In order to be entitled to attend the above General Meeting, the shareholders — according to Article 27 of the Articles of Incorporation — must deposit their share certificates at least five days prior to the meeting (in this case on Friday, 2nd November at the latest) with the bank mentioned hereafter. Against deposit of share certificates, the following bank in the United Kingdom will then issue entrance cards for the meeting:

**Williams & Glyn's Bank Ltd., London**

as well as all other banks assuring the financial service for the company in other countries.

For the Board of Liquidators  
**W. WIRTH, Chairman**

Luxembourg, 19th September 1984



Closing prices, October 19

# NEW YORK STOCK EXCHANGE COMPOSITE CLOSING PRICES

12 Month High	Low	Stock	Dr. Yd. P/E	12 Month High	Low	Stock	Dr. Yd. P/E	12 Month High	Low	Stock	Dr. Yd. P/E	12 Month High	Low	Stock	Dr. Yd. P/E
33.00	32.00	AAA	1.00	33.00	32.00	AAA	1.00	33.00	32.00	AAA	1.00	33.00	32.00	AAA	1.00
32.00	31.00	AA	1.00	32.00	31.00	AA	1.00	32.00	31.00	AA	1.00	32.00	31.00	AA	1.00
31.00	30.00	A	1.00	31.00	30.00	A	1.00	31.00	30.00	A	1.00	31.00	30.00	A	1.00
30.00	29.00	B	1.00	30.00	29.00	B	1.00	30.00	29.00	B	1.00	30.00	29.00	B	1.00
29.00	28.00	C	1.00	29.00	28.00	C	1.00	29.00	28.00	C	1.00	29.00	28.00	C	1.00
28.00	27.00	D	1.00	28.00	27.00	D	1.00	28.00	27.00	D	1.00	28.00	27.00	D	1.00
27.00	26.00	E	1.00	27.00	26.00	E	1.00	27.00	26.00	E	1.00	27.00	26.00	E	1.00
26.00	25.00	F	1.00	26.00	25.00	F	1.00	26.00	25.00	F	1.00	26.00	25.00	F	1.00
25.00	24.00	G	1.00	25.00	24.00	G	1.00	25.00	24.00	G	1.00	25.00	24.00	G	1.00
24.00	23.00	H	1.00	24.00	23.00	H	1.00	24.00	23.00	H	1.00	24.00	23.00	H	1.00
23.00	22.00	I	1.00	23.00	22.00	I	1.00	23.00	22.00	I	1.00	23.00	22.00	I	1.00
22.00	21.00	J	1.00	22.00	21.00	J	1.00	22.00	21.00	J	1.00	22.00	21.00	J	1.00
21.00	20.00	K	1.00	21.00	20.00	K	1.00	21.00	20.00	K	1.00	21.00	20.00	K	1.00
20.00	19.00	L	1.00	20.00	19.00	L	1.00	20.00	19.00	L	1.00	20.00	19.00	L	1.00
19.00	18.00	M	1.00	19.00	18.00	M	1.00	19.00	18.00	M	1.00	19.00	18.00	M	1.00
18.00	17.00	N	1.00	18.00	17.00	N	1.00	18.00	17.00	N	1.00	18.00	17.00	N	1.00
17.00	16.00	O	1.00	17.00	16.00	O	1.00	17.00	16.00	O	1.00	17.00	16.00	O	1.00
16.00	15.00	P	1.00	16.00	15.00	P	1.00	16.00	15.00	P	1.00	16.00	15.00	P	1.00
15.00	14.00	Q	1.00	15.00	14.00	Q	1.00	15.00	14.00	Q	1.00	15.00	14.00	Q	1.00
14.00	13.00	R	1.00	14.00	13.00	R	1.00	14.00	13.00	R	1.00	14.00	13.00	R	1.00
13.00	12.00	S	1.00	13.00	12.00	S	1.00	13.00	12.00	S	1.00	13.00	12.00	S	1.00
12.00	11.00	T	1.00	12.00	11.00	T	1.00	12.00	11.00	T	1.00	12.00	11.00	T	1.00
11.00	10.00	U	1.00	11.00	10.00	U	1.00	11.00	10.00	U	1.00	11.00	10.00	U	1.00
10.00	9.00	V	1.00	10.00	9.00	V	1.00	10.00	9.00	V	1.00	10.00	9.00	V	1.00
9.00	8.00	W	1.00	9.00	8.00	W	1.00	9.00	8.00	W	1.00	9.00	8.00	W	1.00
8.00	7.00	X	1.00	8.00	7.00	X	1.00	8.00	7.00	X	1.00	8.00	7.00	X	1.00
7.00	6.00	Y	1.00	7.00	6.00	Y	1.00	7.00	6.00	Y	1.00	7.00	6.00	Y	1.00
6.00	5.00	Z	1.00	6.00	5.00	Z	1.00	6.00	5.00	Z	1.00	6.00	5.00	Z	1.00

Continued on Page 23

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AMERICAN STOCK EXCHANGE COMPOSITE CLOSING PRICES

Closing prices, October 19

Handwritten Arabic text: "هذا عندنا في السوق"

Main table of American stock exchange closing prices, organized by sector (A through Z) and including columns for stock name, price, and change.

Continued on Page 24

NEW YORK STOCK EXCHANGE COMPOSITE CLOSING PRICES

Main table of New York stock exchange closing prices, organized by sector (A through Z) and including columns for stock name, price, and change.

Continued on Page 24

Notes and footnotes explaining the data, including a disclaimer: "Sales figures are unaudited. Stock highs and lows reflect the previous 52 weeks plus the current week..."



WORLD STOCK MARKETS

OVER-THE-COUNTER

Nasdaq national market. Closing prices. October 19

Table of over-the-counter stock prices with columns for stock name, bid, ask, and change. Includes sections for C-C, D-D, E-E, F-F, G-G, H-H, and I-I.

CANADA

Table of Canadian stock prices, including Toronto closing prices for October 19.

BELGIUM/LUXEMBOURG

Table of Belgian and Luxembourg stock prices for October 19.

SWEDEN

Table of Swedish stock prices for October 19.

AUSTRALIA

Table of Australian stock prices for October 19.

AMERICAN STOCK EXCHANGE CLOSING PRICES

Large table of American stock exchange closing prices, organized by 12-month high/low and stock name.

GERMANY

Table of German stock prices for October 19.

FRANCE

Table of French stock prices for October 19.

NETHERLANDS

Table of Dutch stock prices for October 19.

HONG KONG

Table of Hong Kong stock prices for October 19.

MONTREAL

Table of Montreal stock prices for October 19.

ITALY

Table of Italian stock prices for October 19.

AUSTRIA

Table of Austrian stock prices for October 19.

SPAIN

Table of Spanish stock prices for October 19.

NEW YORK CLOSING PRICES

Table of New York stock exchange closing prices for October 19.

Hand delivery in German cities advertisement with contact information.

Exchange rates advertisement for January 3, 1984.

Commercial and industrial property advertisement.

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WORLD STOCK MARKETS

Indices

NEW YORK DOW JONES 1984 Since Comp'n Oct 19 Oct 18 Oct 17 Oct 16 High Low High Low

STANDARD AND POORS 1984 Since Comp'n Oct 19 Oct 18 Oct 17 Oct 16 High Low High Low

TORONTO 1984 Since Comp'n Oct 19 Oct 18 Oct 17 Oct 16 High Low High Low

MONTREAL Portfolio 1984 Since Comp'n Oct 19 Oct 18 Oct 17 Oct 16 High Low High Low

NEW YORK ACTIVE STOCKS Friday Stocks Closing Change

AUSTRALIA AS 100 (1/100) 745.8 745.3 747.4 745.5 747.8 (0/1) 548.5 (0/0)

GERMANY FAZ Aktien (5/1000) 276.27 276.4 276.5 276.5 276.5 (1/10) 276.7 (2/7)

ITALY Banca Com. Ital. (1/100) 212.25 212.25 212.25 212.25 212.25 (1/1) 212.25

JAPAN Nikkei-Dow (100/100) 10846.17 10846.17 10846.17 10846.17 10846.17 (4/0) 10846.17

NETHERLANDS AEX-100 (1/100) 175.4 175.4 175.4 175.4 175.4 (1/10) 175.4

NORWAY Oslo SE (1/100) 201.78 201.78 201.78 201.78 201.78 (0/0) 201.78

SINGAPORE Straits Times (1984) 886.12 886.12 886.12 886.12 886.12 (0/0) 886.12

SOUTH AFRICA Gold (100) 244.3 244.3 244.3 244.3 244.3 (0/0) 244.3

SPAIN Madrid SE (20/100) 145.85 145.85 145.85 145.85 145.85 (0/0) 145.85

SWITZERLAND SwissBank Ops (1/100) 278.3 278.3 278.3 278.3 278.3 (0/0) 278.3

WORLD Capital Intl. (1/100) 182.80 182.80 182.80 182.80 182.80 (0/0) 182.80

OVER-THE-COUNTER

Continued from Page 24

Stock Sales High Low Last Chng

Stock Sales High Low Last Chng

Stock Sales High Low Last Chng

Stock Sales High Low Last Chng

Stock Sales High Low Last Chng

Stock Sales High Low Last Chng

Stock Sales High Low Last Chng

Stock Sales High Low Last Chng

Stock Sales High Low Last Chng

Stock Sales High Low Last Chng

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Stock Sales High Low Last Chng

Stock Sales High Low Last Chng

Stock Sales High Low Last Chng

Stock Sales High Low Last Chng

Stock Sales High Low Last Chng

Stock Sales High Low Last Chng

Stock Sales High Low Last Chng

RMP Rand Mines Properties Limited (Incorporated in the Republic of South Africa) A Member of the Barlow Rand Group PROFIT AND DIVIDEND ANNOUNCEMENT

INCOME STATEMENT The audited consolidated results of the group for the year ended 30 September 1984 with the 1983 comparative figures are as follows:

BALANCE SHEET The audited consolidated balance sheets at 30 September 1984 and 30 September 1983 are set out below:

Notes: (i) Sand treatment Sand and slime treated (000 tons) 5 112 4 083

Mill throughput increased by 26% in 1984 and gold production, at 2 678 kilograms, exceeded the 1983 figure by 30%. Unit working costs have been well contained, reflecting a rise of approximately 5%.

RMP RAND MINES PROPERTIES LIMITED (Incorporated in the Republic of South Africa) A MEMBER OF THE BARLOW RAND GROUP

U.S. QUARTERLY RESULTS AMERICAN CYANAMID

For and on behalf of the board D. T. WATT J. R. FORBES A. B. HALL Directors



26 AUTHORISED UNIT TRUSTS

Table listing various unit trusts such as Abbey Unit Tr. Mgrs. (a), British Gas Group-Continued, and others, with columns for name, manager, and performance metrics.

Table listing unit trusts under the heading 'British Gas Group-Continued', including details like 'British Gas Group-Continued', 'British Gas Group-Continued', etc.

FT UNIT TRUST INFORMATION SERVICE

Main table of unit trusts including categories like 'Franklin Unit Mgr. Ltd. (a)', 'Key Fund Managers Ltd. (a)(g)', 'Perpetual Unit Trust Mgmt. (a)(c)', etc.

City of Westminster Assurance

Table listing various insurance and assurance companies and their products, including 'City of Westminster Assurance', 'General Portfolio Life Ins. PLC', etc.

F.T. CROSSWORD PUZZLE No. 5,549

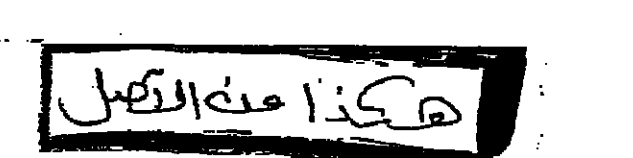
- ACROSS
1 Removed from office desk a/c by arrangement (6)
4 Starting out unfettered, like Elsa (4, 4)
9 Attempt to follow the old horse back to the crane overhead (6)
10 Constituent element of natural precipitation (8)
12 Thrashed light-heartedly (8)
13 Exaggerate nothing about Dover (6)
15 Read about high-priced description (4)
16 Company member approaches divided senate to make amends (10)
19 They turn in around Notts river (10)
20 Out of step I can become heroic (4)
23 Upsets the medicine on board (6)
25 Tone, said to be arranged for calming effect (6)
27 Chorlton who claims to be a source of public information (8)
28 Is to reflect about wrong treatment (6)
29 Formerly about a thousand trees are at the farthest limits (8)
30 Swear to be at the cricket match (6)
DOWN
1 Yearn, Edward, for what you see in the distance, perhaps (7)
2 Play a trick on the boy with a worker following a letter (9)

Grid for the crossword puzzle with numbers 1 through 30 indicating starting positions.

18 Come together as Sebastian and Swallows' before a century (8)
19 Take a breath in the top-most part of the church (7)
21 Satisfied about a hundred on temporary shelter (7)
22 Sat about as young Sidney returns, the pervers (6)
24 Grind up tin to make a contribution (5)
26 Body of laws - three-quarters fish or verse (4)
The solution to last Saturday's prize puzzle will be published with names of winners next Saturday.

INSURANCES

Table listing various insurance companies and their products, including 'AA Friendly Society', 'Abby Life Assurance Co. Ltd.', etc.





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INSURANCE, OVERSEAS & MONEY FUNDS

Table of insurance and overseas funds, including columns for fund names, descriptions, and numerical values.

Table of insurance and overseas funds, including columns for fund names, descriptions, and numerical values.

Table of money funds, including columns for fund names, descriptions, and numerical values.

OFFSHORE AND OVERSEAS

Table of offshore and overseas funds, including columns for fund names, descriptions, and numerical values.

Money Market

Table of money market data, including columns for fund names, descriptions, and numerical values.

Money Market Bank Accounts

Table of money market bank accounts, including columns for fund names, descriptions, and numerical values.

Footnote and disclaimer text at the bottom of the page.



FT LONDON SHARE INFORMATION SERVICE

Bryant Properties 021 704 5111 FOR QUALITY DEVELOPMENTS IN THE SOUTH AND MIDLANDS

BRITISH FUNDS

Table of British Funds including 'Shorts' (Lives up to Five Years) and Five to Fifteen Years categories.

Over Fifteen Years

Table of Over Fifteen Years funds.

Over Fifteen Years

Table of Over Fifteen Years funds (continued).

Undated

Table of Undated funds.

Index-Linked

Table of Index-Linked funds.

INT. BANK AND OSEAS GOVT STERLING ISSUES

Table of International Bank and Overseas Government Sterling Issues.

CORPORATION LOANS

Table of Corporation Loans.

COMMONWEALTH AND AFRICAN LOANS

Table of Commonwealth and African Loans.

LOANS Building Societies

Table of Loans from Building Societies.

Public Board and Ind.

Table of Public Board and Industrial issues.

Financial

Table of Financial issues.

AMERICANS

Table of American stocks.

BEERS, WINES—Cont.

Table of Beers and Wines.

BUILDING INDUSTRY, TIMBER AND ROADS

Table of Building Industry, Timber and Roads.

CANADIANS

Table of Canadian stocks.

BANKS, HP AND LEASING

Table of Banks, Home Products and Leasing.

CHEMICALS, PLASTICS

Table of Chemicals and Plastics.

DRAPERY AND STORES

Table of Drapery and Stores.

BEERS, WINES AND SPIRITS

Table of Beers, Wines and Spirits.

FOREIGN BONDS & RAILS

Table of Foreign Bonds and Rails.

DRAPERY & STORES—Cont.

Table of Drapery and Stores (continued).

ELECTRICALS

Table of Electricals.

FOOD, GROCERIES, ETC

Table of Food, Groceries, etc.

HOTELS AND CATERERS

Table of Hotels and Caterers.

INDUSTRIALS (Miscel.)

Table of Industrial (Miscellaneous) stocks.

ENGINEERING—Continued

Table of Engineering stocks (continued).

ENGINEERING

Table of Engineering stocks.

ENGINEERING

Table of Engineering stocks (continued).

ENGINEERING

Table of Engineering stocks (continued).

INDUSTRIALS (Miscel.)

Table of Industrial (Miscellaneous) stocks.

ENGINEERING—Continued

Table of Engineering stocks (continued).

ENGINEERING

Table of Engineering stocks.

ENGINEERING

Table of Engineering stocks (continued).

ENGINEERING

Table of Engineering stocks (continued).

ENGINEERING

Table of Engineering stocks (continued).

ENGINEERING

Table of Engineering stocks (continued).

ENGINEERING

Table of Engineering stocks (continued).

ENGINEERING

Table of Engineering stocks (continued).



Financial Times Monday October 22 1984

INDUSTRIALS—Continued

Table of industrial stocks including Johnson & Johnson, Amgen, and various pharmaceutical and chemical companies.

LEISURE—Continued

Table of leisure stocks including Leisure World, Leisure World of America, and other recreational companies.

PROPERTY—Continued

Table of property stocks including various real estate and construction companies.

INVESTMENT TRUSTS—Cont.

Table of investment trusts including various equity and bond funds.

OIL AND GAS—Continued

Table of oil and gas stocks including various energy and exploration companies.

DAIICHI EUROPE LIMITED For EQUITIES & BONDS. Contact information for London EC1Y 4TQ.

MINES—Continued. Table of mining stocks including various metal and coal companies.

MOTORS, AIRCRAFT TRADES

Table of motor and aircraft trade stocks including various automotive and aerospace companies.

Commercial Vehicles

Table of commercial vehicle stocks including various truck and bus manufacturers.

Components

Table of component stocks including various parts and accessories manufacturers.

Garages and Distributors

Table of garage and distributor stocks including various service and retail companies.

NEWSPAPERS, PUBLISHERS

Table of newspaper and publisher stocks including various media and publishing companies.

PAPER, PRINTING ADVERTISING

Table of paper, printing, and advertising stocks including various media and service companies.

SHIPPING

Table of shipping stocks including various maritime and logistics companies.

SHOES AND LEATHER

Table of shoe and leather stocks including various footwear and leather goods companies.

SOUTH AFRICANS

Table of South African stocks including various companies from that region.

TEXTILES

Table of textile stocks including various clothing and fabric manufacturers.

TOBACCO

Table of tobacco stocks including various tobacco and cigarette companies.

TRUSTS, FINANCE, LAND

Table of trusts, finance, and land stocks including various investment and service companies.

OVERSEAS TRADERS

Table of overseas trader stocks including various international trade and service companies.

PLANTATIONS

Table of plantation stocks including various agricultural and land management companies.

FINANCE, LAND, ETC

Table of finance, land, and other stocks including various investment and service companies.

RUBBERS, PAINTS

Table of rubber and paint stocks including various chemical and manufacturing companies.

TEAS

Table of tea stocks including various agricultural and food companies.

MINES

Table of mining stocks including various metal and coal companies.

Far West Rand

Table of Far West Rand mining stocks including various metal and coal companies.

REGIONAL & IRISH STOCKS

Table of regional and Irish stocks including various companies from those areas.

O.F.S.

Table of O.F.S. stocks including various international and offshore companies.

Options

Table of options stocks including various investment and service companies.

INSURANCES

Table of insurance stocks including various life, fire, and marine insurance companies.

LEISURE

Table of leisure stocks including various recreational and entertainment companies.

OIL AND GAS

Table of oil and gas stocks including various energy and exploration companies.

DIAMOND AND PLATINUM

Table of diamond and platinum stocks including various precious metal and mining companies.

NOTES

Notes regarding stock prices, dividends, and other financial information.

REGIONAL & IRISH STOCKS

Table of regional and Irish stocks including various companies from those areas.

Options

Table of options stocks including various investment and service companies.

Options—3-month call rates

Table of 3-month call rates for various options and financial instruments.



CURRENCIES, MONEY and CAPITAL MARKETS

FOREIGN EXCHANGES

Sterling moves to centre stage

BY COLIN MILLHAM

Sterling moved to the centre of the stage during several days last week, falling to a record low against the dollar and major currencies in general.

deputies to strike this week. Sterling fell below \$1.20 for the first time ever on Tuesday.

Heavy sales of dollars by the German central bank was very unhelping to the market since it came at a time when the dollar was moving up steadily.

STERLING EXCHANGE RATE INDEX (Bank of England)

Table with columns: Oct 19, Previous, 8.20 am, 9.00 am, 10.00 am, 11.00 am, Noon, 1.00 pm, 2.00 pm, 3.00 pm, 4.00 pm. Values range from 74.2 to 74.3.

New York rates

Table with columns: Oct 19, Prev. close. Values for 1 month, 3 months, 6 months, 12 months.

FORWARD RATES AGAINST STERLING

Table with columns: Dollar, D-Mark, French, Swiss Franc, Japanese Yen. Values for 1 month, 3 months, 6 months, 12 months.

POUND SPOT - FORWARD AGAINST POUND

Table with columns: Oct 19, Day's spread, Close, One month, % Three months, % Six months. Includes data for U.S., Canada, Netherlands, Belgium, Denmark, Ireland, W. Ger., Portugal, Spain, Italy, Norway, France, Sweden, Japan, Austria, Switz.

OTHER CURRENCIES

Table with columns: Oct 19, £, \$, Note Rates. Includes Argentina, Australia, Brazil, Canada, Denmark, Finland, France, Greece, Hong Kong, India, Iran, Israel, Italy, Luxembourg, Malaysia, New Zealand, Norway, Saudi Arab, Singapore, South Africa, U.A.E., U.S., Yugoslavia.

EMS EUROPEAN CURRENCY UNIT RATES

Table with columns: Currency, % change, % change adjusted for divergence, Divergence limit %. Includes Belgium, Denmark, Dutch, French, German, Greek, Italian, Irish, Luxembourg, Netherlands, Portugal, Spain, Sweden, Switzerland, U.K., U.S.

EXCHANGE CROSS RATES

Table with columns: Oct 19, Pound Sterling, U.S. Dollar, Deutschmark, Japanese Yen, French Franc, Dutch Guilder, Italian Lira, Canadian Dollar, Swiss Franc, Australian Dollar, New Zealand Dollar, South African Rand, U.A.E. Dirham.

EURO-CURRENCY INTEREST RATES (Market closing rates)

Table with columns: Oct 19, Sterling, U.S. Dollar, Canadian Dollar, Dutch Guilder, Swiss Franc, French Franc, Italian Lira, Belgian Franc, Yen, Danish Krone. Includes Short term, 7 days notice, 14 days notice, 3 months, 6 months, 12 months.

MONEY MARKETS

A confused and nervous scene

Interest rates remained volatile on the London money market last week, with longer term rates particularly firm, leading to a change in the yield curve.

which could easily be followed by another early downward shift. Any upward move in base rates would also be opposed by the authorities, especially since sterling is unlikely to derive much benefit until base rates are around 12 per cent.

The yield curve on the inter-bank market changed from a gentle downward slope to a fairly pronounced upward path. Pressure eased on Friday, but the curve remained upward sloping.

Lawson, Chancellor of the Exchequer, aimed at calming fears in the City with regard to economic policy, the decline of the pound, and the level of interest rates, may have helped sentiment, but the main impact on Friday was events in the U.S.

MONEY RATES

Table with columns: Oct 19, Frankfurt, Paris, Zurich, Amsterdam, Tokyo, Milan, Brussels, Dublin. Includes Overnight, One month, Two months, Three months, Six months, One year.

LONDON MONEY RATES

Table with columns: Oct 19, Sterling, Interbank, Local Authority deposits, Company Deposits, Market Deposits, Treasury (Buy), Treasury (Sell), Eligible Bank (Buy), Eligible Bank (Sell), Fine Trade (Buy), Fine Trade (Sell). Includes Overnight, 2 days notice, 3 days notice, 7 days notice, One month, Two months, Three months, Six months, One year.

INTERBANK FIXING FT LONDON

Table with columns: LONDON INTERBANK FIXING (11.00 a.m. October 19), 3 months U.S. dollars, bid 10 1/4 offer 10 5/8, 6 months U.S. dollars, bid 10 1/8 offer 10 1/16.

The fixing rates are the arithmetic means rounded to the nearest one sixteenth of the bid and offered rates for \$10m quoted by the market to five reference banks at 11 am each working day.

LONDON

Table with columns: Close, High, Low, Prev. Includes THREE-MONTH EURO DOLLAR, Dec, March, June, Sept, Dec, March, June, Sept.

CHICAGO

Table with columns: Close, High, Low, Prev. Includes U.S. TREASURY BONDS (CBT), Dec, March, June, Sept.

STERLING (IMM) \$s per £

Table with columns: Dec, March, June, Sept. Values range from 89.22 to 89.28.

WEEKLY CHANGE IN WORLD INTEREST RATES

Table with columns: Oct 19, change, NEW YORK, Oct 19, change. Includes Base rates, 7 day interbank, 3 month interbank, 3 month Treasury Bills, 3 month Bank Bills, 3 month Commercial Bills, 3 month Government Bills, 3 month Municipal Bonds, 3 month Corporate Bonds, 3 month Treasury Notes, 3 month Treasury Bonds, 3 month Government Bonds, 3 month Municipal Bonds, 3 month Corporate Bonds.

CURRENCY MOVEMENTS

Table with columns: Oct 19, Bank rate, Morgan Guaranty, Special Rights, European Unit. Includes Sterling, U.S. Dollar, Canadian Dollar, Australian Dollar, New Zealand Dollar, South African Rand, U.A.E. Dirham, Japanese Yen, French Franc, Dutch Guilder, Italian Lira, Swiss Franc, Belgian Franc, Yen, Danish Krone.

CURRENCY RATES

Table with columns: Oct 19, Bank rate, Morgan Guaranty, Special Rights, European Unit. Includes Sterling, U.S. Dollar, Canadian Dollar, Australian Dollar, New Zealand Dollar, South African Rand, U.A.E. Dirham, Japanese Yen, French Franc, Dutch Guilder, Italian Lira, Swiss Franc, Belgian Franc, Yen, Danish Krone.

NOTICE OF PREPAYMENT THE MITSUBISHI BANK LIMITED

Callible Negotiable Floating Rate Dollar Certificates of Deposit No. FRCHMZ/00001 to FRCHMZ/00006 Issued on 26th November, 1983 Maturity Date 26th November, 1985

NOTICE OF PREPAYMENT The Kyowa Bank, Limited

Callible Negotiable Floating Rate Dollar Certificates of Deposit Certificate No. 000001-000030 issued on 29th November, 1982 Maturity Date 29th November, 1985

NOTICE OF PREPAYMENT The Kyowa Bank, Limited

Callible Negotiable Floating Rate Dollar Certificates of Deposit Certificate No. 000001-000030 issued on 29th November, 1982 Maturity Date 29th November, 1985

FT-SE 100 INDEX

Table with columns: Close, High, Low, Prev. Includes Dec, March, June, Sept.

U.S. TREASURY BONDS (CBT)

Table with columns: Close, High, Low, Prev. Includes Dec, March, June, Sept.

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NOTICE OF PREPAYMENT THE MITSUBISHI BANK LIMITED (Incorporated in Japan) US\$50,000,000 Callible Negotiable Floating Rate Dollar Certificates of Deposit

NOTICE OF PREPAYMENT The Kyowa Bank, Limited (Incorporated with limited liability in Japan) US\$30,000,000 Callible Negotiable Floating Rate Dollar Certificates of Deposit

NOTICE OF PREPAYMENT The Kyowa Bank, Limited (Incorporated with limited liability in Japan) US\$30,000,000 Callible Negotiable Floating Rate Dollar Certificates of Deposit

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# FINANCIAL TIMES SURVEY

## Computers in banking

With the spread of high technology, banks and financial institutions in many countries are developing systems to provide ever more rapid data communications. The new services range from electronic cash management and automated teller machine networks to 'cashless shopping' and home banking facilities.

### Major changes under way

EVERY CHEQUE guarantee card issued by a British clearing bank from now on could be regarded as a symbol of the way the financial community has embraced new technology.

The new cards feature seven separate security measures made possible only through high technology to give maximum defence against fraud and counterfeiting, including two levels of magnetic printing, concealed micro-graphics, fluorescent coding and white light holography.

It all underlines the banks' commitment to a technological future and the role that — at least in retail banking — the humble plastic card will play in that future.

That high technology card in the wallet is perhaps the most visible evidence that there are no longer any doubts about the direction in which the technological revolution in financial services is going, only about how long it may take.

Over the past decade or so there has been, in fact, a remarkable congruence between

BY ALAN CANE

the changing profiles of the finance and retail industries and the development of micro-electronic technology.

One of the best examples of this trend started with the decision of the industrialised countries in the early 1970s to abandon fixed rates of exchange and float their currencies. This gave rise in violent rate fluctuations that would have been massively difficult to track and

record using labour-intensive manual methods.

The big banks were able to write or have written for them foreign exchange software that would run effectively on their million dollar mainframe computers; at about the same time, smaller computers of the IBM System/34 or DEC PDP 11 variety were becoming available. These were the kinds of machine that small banks and subsidiaries of larger one could afford.

At a reasonable cost they were able to instal a foreign exchange computer software package (a piece of off-the-

shelf software that can be installed in a number of different banks without major modification) to give them access to the same kind of computing power enjoyed by their bigger neighbours.

The computers themselves were comparatively unsophisticated, the software packages often extremely elementary collections of programs. The creators of one of the more successful of these forex packages recall their first demonstration: it consisted of entering two deals, one foreign exchange and one deposit. There was little else on the system, apart from a few customers and some basic tables.

These were all "back office" systems, recording, accounting

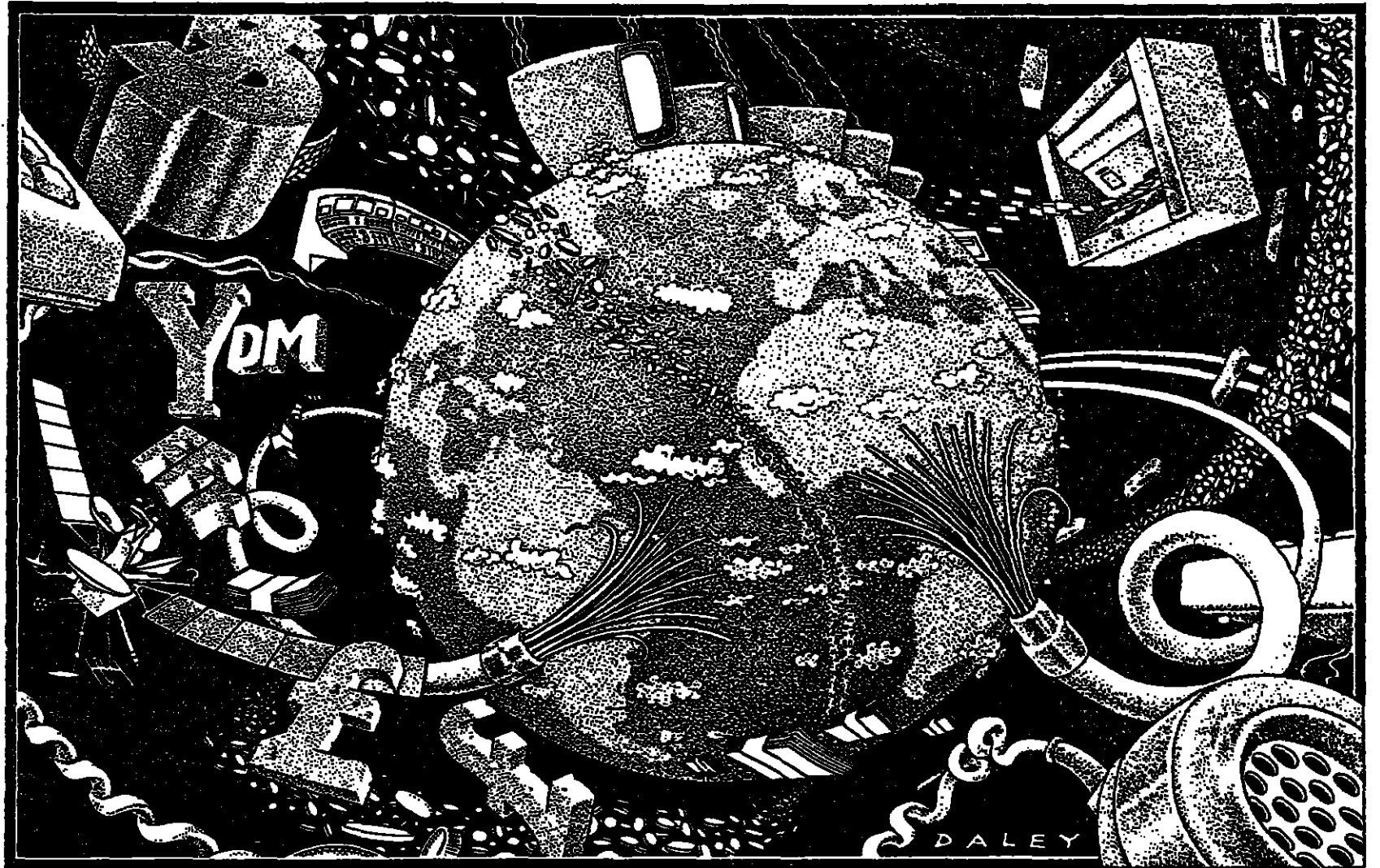
and keeping track of the banks' forex dealings.

By now, however, the banks were becoming aware of how much advantage they could gain from automating their activities and how little of their traditional practices had yet succumbed to computerisation — between 5 and 10 per cent was a typical estimate.

They were looking for ways to support their dealers and their managers by providing up-to-date information directly to their desks.

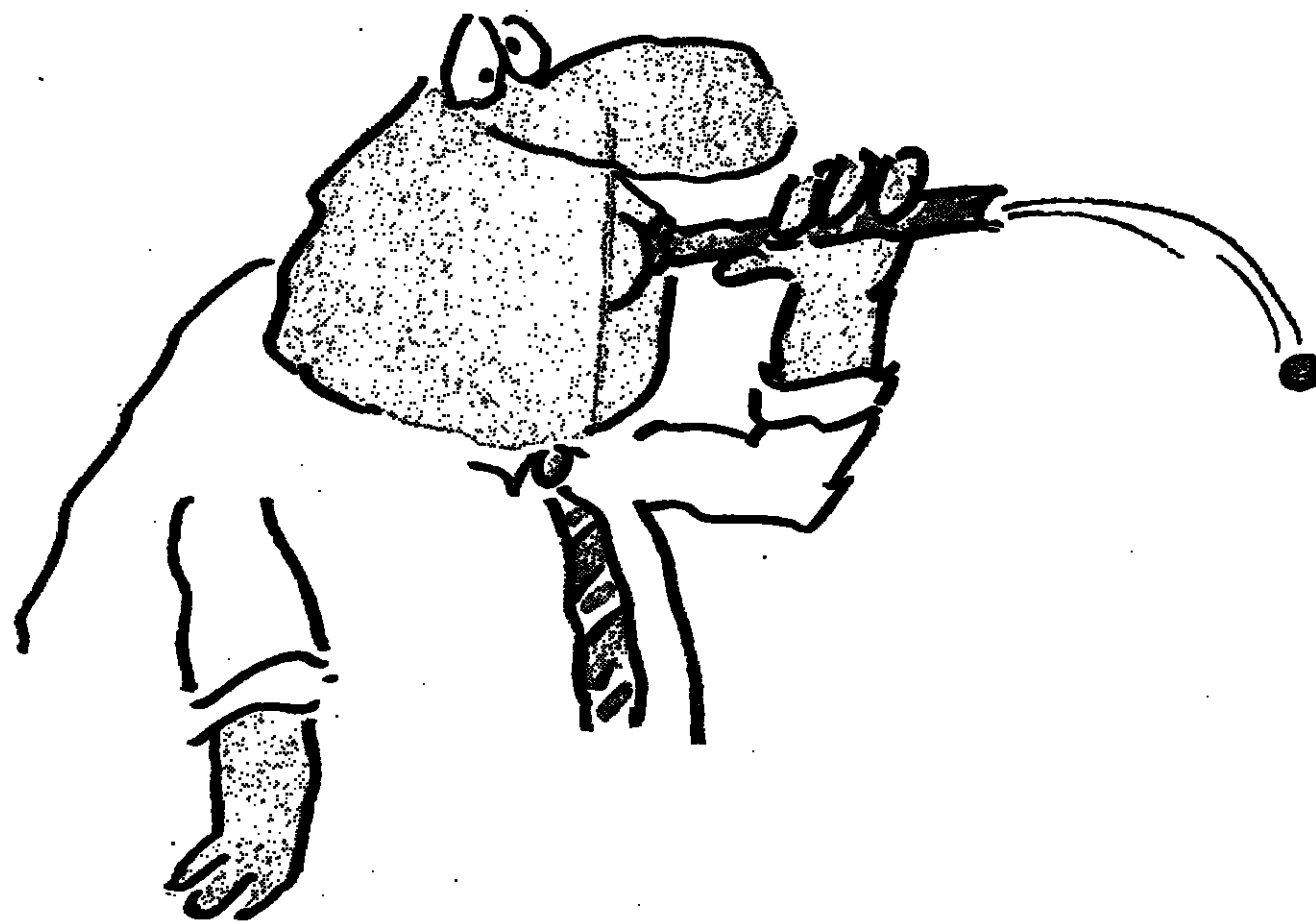
A new generation of computer hardware was emerging, based on very powerful silicon

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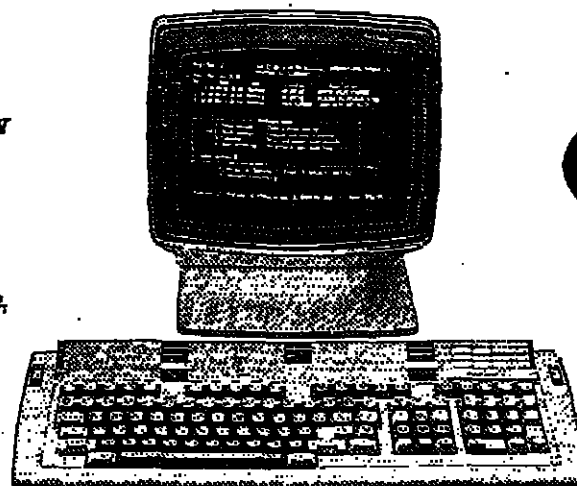
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Computers in banking 2

# Heavy investment in new technology

IN TODAY'S marketplace, banks cannot offer an efficient service to customers without the help of automation both in the front and back office.

● In the front office, the banks have invested heavily in new technology in the shape of ATMs (automated teller machines) and cashier terminals, although apart from a few small experiments, home banking and EFT/POS have been somewhat ignored.

With the building societies hot on their heels, banks' investment in front office systems is continuing. Lloyds Bank, for example, has just placed an order for 1,000 counter terminals to be installed in 150 of its branches.

The terminals are NCR 2262s and will automate the recording of transactions and capture data from either cheques or plastic cards. Terminals in a branch will also be linked together to provide cohesive branch information.

Shared networks have also become important—NatWest and banks' ATMs, and Barclays, Midland customers can use both Lloyds, Williams and Glyn, Royal Bank of Scotland and Bank of Scotland have planned a similar scheme.

The building societies have been keenly stepping up their investment in ATMs in an attempt to offer their customers general retail banking services. Recently, the Abbey National decided to buy NCR 9081 machines for its network, and will initially install 200 ATMs, while the Leicester has placed a contract worth £500,000 with Philips Business Systems, with a view to increasing the number of its branch ATMs from 40 to 61. Shared networks are also planned by two consortia—Link and EFT.

But in the areas of home banking and EFT/POS, the Midland Bank has a small home banking scheme in operation, while the much publicised Homelink scheme (run by the Nottingham building society and the Bank of Scotland), has been in operation since December 1982.

With EFT/POS, the pilot experiments have been masterminded by the oil companies on the whole, although the Clydesdale bank is involved in one of these with BP. The banks are committed to a nationwide EFT/POS scheme in

## UK banking developments

SIOBHAN HANEY

1986, but there are still many problems (mainly centred around the question of who should pay) to be ironed out.

● Meanwhile, in the back office, the banks have been busy automating in the form of mainframes, PCs, dealing systems and corporate cash management products.

Historically, the banks installed mainframe systems to cope with the mundane data processing tasks, such as the settlement of transactions and the maintenance of records.

Example But with minicomputers becoming more and more sophisticated, many banks are now opting for "mini" networks. One such bank is Williams and Glyn, which has recently replaced the IBM mainframe in the treasury department with two Data General minicomputers. These now provide the bank's dealers with the information they need to make instant decisions and cross rate calculations, as well as supplying supporting data.

The majority of banks though, are not putting all their eggs into one basket; they are keeping their options open by installing networks of minis alongside existing mainframes. One such bank is the Midland. Midland has plans to install 733 Nixdorf 8864 minisystems, which means that a total of 1,824 of the bank's branches will be equipped with these systems.

The Nixdorf computers support the major part of the branch controller to Midland's routines including the recording of customers transactions, account status enquiries and the production of management reports. The back office work stations are connected via the branch controller to Midland's Burroughs mainframe computers in Bootle and Greater London.

The growing sophistication of technology in communications has assisted the move away from a centralised system to a decentralised network. Thus, the banks' local area networks are becoming increasingly important.

Midland Bank's corporate finance division in London, has installed a microcomputer-based Xionics local area network which can handle, in addition to conventional electronic office facilities, word processing, financial modelling, storage and retrieval and so forth.

● The dealing room of a bank has long been a prime target for new technology. Banks are investing huge sums in dealing room technology so as to gain a competitive advantage in what has become a very demanding market. Perhaps one of the most revolutionary systems is British Telecom's City Business system, a programmable touch-sensitive screen which was introduced at Williams and Glyn nearly two years ago.

Many banks are developing their systems in-house. Barclays is developing a system based on the commercially available Dids systems sold by Logica, and Midland uses an in-house system produced in conjunction with Ragsdale.

Citibank has now begun to market its own trading system, which features an Apple-based touch-sensitive membrane pad built into the dealer's desk.

Merrill Lynch and Manufacturers Hanover have taken the Cititrader system which has been developed for use on IBM PCs. This type of dealer desk units is an attractive idea for many banks—it allows a faster update of the dealer's position and requires no typing skills like a conventional keyboard, as it uses an electronic stylus to point at the required bank, broker or amount.

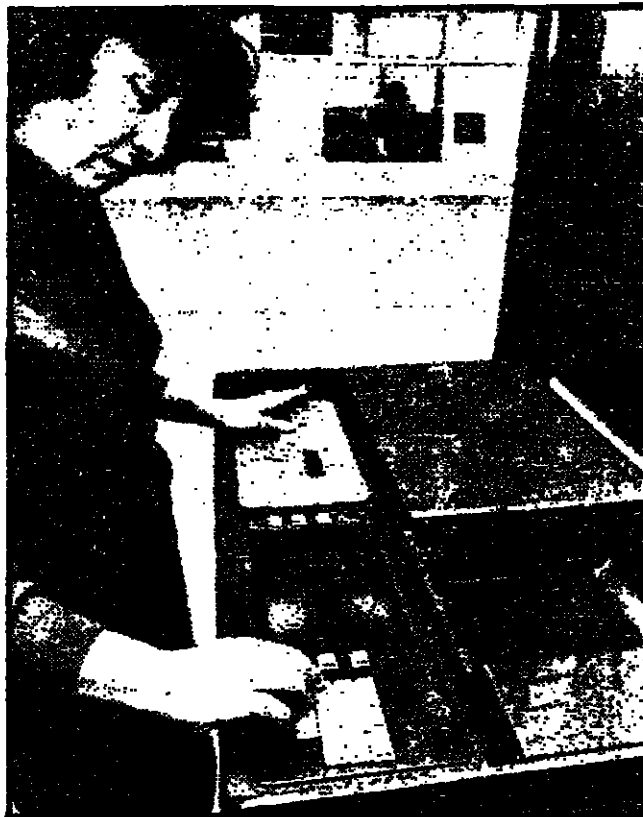
Real time information systems such as Reuters, Telerate and Topic are becoming increasingly more important to the dealer. Indeed, one of the problems facing the banks at the moment, is how to cut down on the amount of hardware on the dealer's desk, as each of these systems can require a dedicated terminal. The aim is to streamline all information into just one terminal.

● Corporate cash management services have become an essential part of UK banks' business in recent years. Prompted by the assault on the UK market by the American banks, the British clearers began to get their act together, about five years ago.

Cashcall, Midland's CMS and NatWest's Network all offer balance and transaction information, target balance reporting, and a money transfer facility.

What of the future? On the retail side, investment in ATMs and front office systems will doubtless continue, whilst behind the scenes, the numbers of mini and personal computers are likely to grow alongside existing mainframes. Dealers will continue to search for the perfect dealer-desk system and increasingly sophisticated software to rationalise the banks' cash management systems.

Being ahead with the most recent technology means a more efficient and profitable operation; therefore, computer technology will play an essential role in any successful bank's future.



Electronic branch banking: an NCR lobby terminal in use at Barclays Bank in Leadenhall Street in the City of London

## UK banking automation

### AUTOMATIC TELLER MACHINES AND CASH DISPENSERS

Bank	1979	1980	1981	1982	1983
Barclays	131	157	268	487	683
Lloyds	819	986	1,208	1,400	1,535
Midland	24	140	280	518	703
NatWest	136	229	614	765	1,304
Williams and Glyn	—	—	41	127	194
Bank of Scotland	—	—	150	190	203
Clydesdale	12	51	104	137	194
Royal Bank of Scotland	56	133	201	280	305
Total	1,178	1,696	2,766	3,884	5,091

Source: Committee of London Clearing Banks

United action The four largest clearers have adopted a more or less similar approach to offering cash management. All use the "third party" networks such as GEISCO, ADP and ICD, together with software packages from external suppliers designed to operate on these networks.

Barclays' BarCam, Lloyds'

# Spending will exceed \$4bn this year

U.S. BANKS and financial institutions will spend more than \$4bn on computers, computer programs and related information services this year, according to U.S. market researchers. By 1989, the figure will reach a staggering \$11.2bn.

As one of the most people-intensive industries, banks have most to gain—or lose—from automation and have generally taken a lead in applying new technology. The "front desk" has been the first part of the retail banking operation to become highly automated. Some 48,000 automated teller machines (ATMs) are now in use in the U.S., an increase of 9,800 compared to six years ago.

ATMs have, however, been slower to catch on in California. The machines were first installed in California in the late 1970s but did not arrive in large numbers until about three years ago, well behind the pace in other sections of the country.

Bankers say that the extensive branch networks of California's large banks made automation expensive. Recently, however, major California banks, including Bank of America, have closed several branch offices, often replacing them with "banking convenience centres," otherwise known as ATMs.

Automatic teller networks are growing apace. The largest—the Citrus and Pines Systems—are now being challenged by the new but growing Visa "Electron" card network and Mastercard's Mapp.

Citrus links 4,200 ATMs owned by 200 banks and expects to have 5,000 machines linked together by the end of the year. Citrus was started 18 months ago by 13 principal member-owners, all banks.

For the first time, such systems offer U.S. residents easy access to banking facilities when they are travelling outside their home state.

Pines Systems is not much smaller than Citrus. And with a base of 1,478 banks it could out-distance the competition. There are currently about 4,000 ATMs linked to the system. Pines Systems started 12 months ago.

Visa's new network, launched six months ago with about 150 banks agreeing to link their ATMs to the system



The banks are taking the lead in applying new technology in the U.S.

## Advances in U.S. banking

LOUISE KENOE

is, however, expected to have 2,000-3,000 machines by year's end. The Visa system is "designed to access a worldwide network of thousands of teller machines and to have the way for the use of a uniform card at electronic point-of-sale terminals," says Mr David Huzem, executive vice-president of Visa USA, with headquarters in San Mateo, California.

The Visa "Electron" debit card can be used not only by ATMs but also by optical character readers, electronic cash registers and super-market scanners.

This is an important move in the spread of automatic banking. In California, super-markets process more cheques than banks. Eighty per cent of the cheques used in California are cashed at grocery stores. That is why grocery chains are a key to the success of any new West Coast ATM network. The grocers have been involved since the planning stages in the state's Interlink Network, a joint venture between Wells Fargo Bank, Bank of America, Security Pacific, Crocker Bank and First Interstate.

Moves to take banking right into the customer's living room is, however, the ultimate convenience. Home computer banking services are currently offered by several of

the major U.S. banks, including Chemical Bank on the East Coast and Security Pacific and Bank of America in California.

Home banking is, however, still in its infancy and there is some scepticism about its appeal. Most U.S. banks are taking a cautious approach. Crocker Bank recently began a pilot program, based upon the Fronts System developed by Chemical Bank of New York.

Just 200 customers are involved in the experiment, but the services offered are comprehensive. In addition to checking account balances and moving funds from one account to another, the Crocker system enables customers to pay bills to over 250 different credit cards.

Industry analysts do not expect home banking to set itself. Rather, they anticipate that home banking will catch on when other home computer information services (teletext, videotext, videotext) combine to attract the consumer.

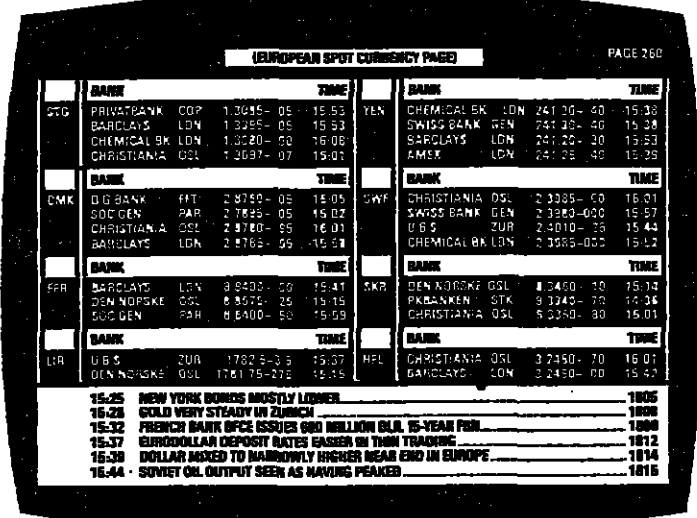
Meanwhile, the personal computer has many other roles to play in banking. The Bank of America has created a new banking personal computer application with the creation of its personal computer-based electronic fund transfer system, installed last May, the "Wirenet" system employs a local area network of 11 IBM personal computers to process the bank's 500 daily incoming and outgoing funds transfers.

Powered via three major wire services, the transfers represent a daily volume of \$600m. The system cost less than half that of a multi-computer-based system with comparable capabilities, according to the bank.

Another advantage is that the system can be expanded as needed.

Future applications of computer technology in banking are emerging with the commercialisation of "artificial intelligence." Systems such as the computer-based "Investment Advisor" developed by Cognitive Systems, could lead the way toward automation of many more banking functions including those handled by branch managers, portfolio managers and other banking professionals.

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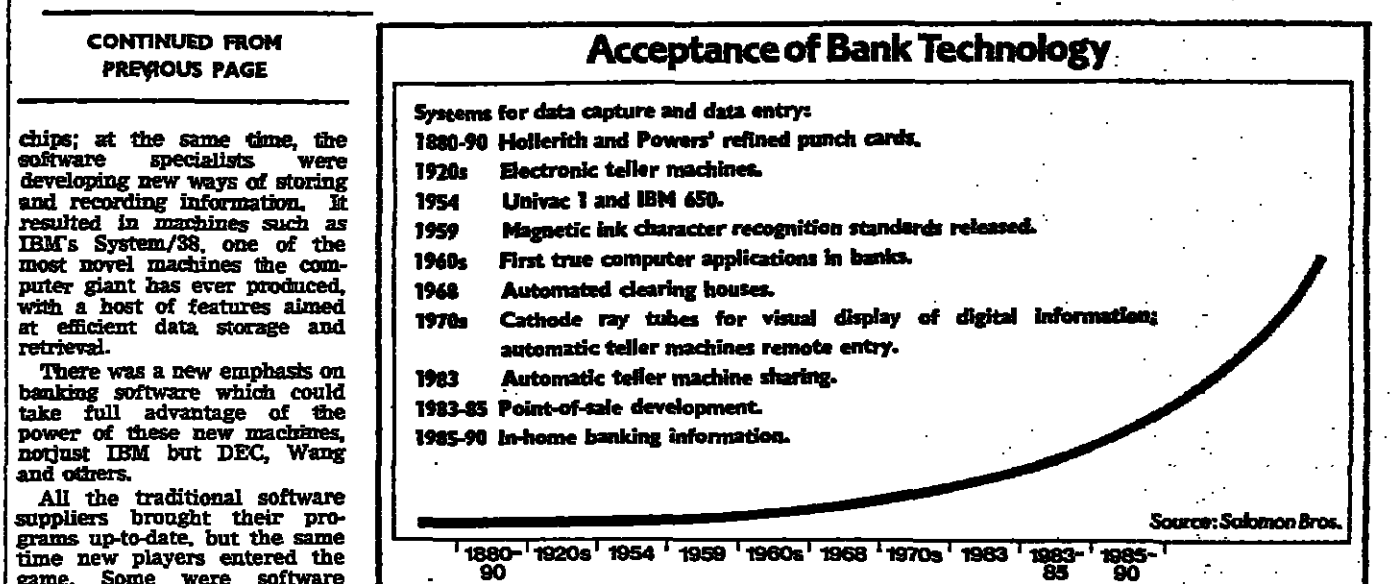
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# Complex worldwide networks



CONTINUED FROM PREVIOUS PAGE

chips; at the same time, the software specialists were developing new ways of storing and recording information. It resulted in machines such as IBM's System/38, one of the most novel machines the computer giant has ever produced, with a host of features aimed at efficient data storage and retrieval.

There was a new emphasis on banking software which could take full advantage of the power of these new machines, not just IBM but DEC, Wang and others.

All the traditional software suppliers brought their programs up-to-date, but the same time new players entered the power of these new machines, not just IBM but DEC, Wang and others.

Others were banks themselves; the Italian International Bank in London is one example. IBM Samuelson and the computer giant has ever produced, with a host of features aimed at efficient data storage and retrieval.

This pattern of financial developments ranging hand-in-hand with technological progress and leading to the entrance of new competitors can be seen to be repeated virtually across the board in banking and retailing.

Sometimes the match has been less than exact and has proved expensive. One of the major events in technological banking this year was the opening of CHAPS, the London clearing banks' automated payments system.

well advanced to develop a new version of the network taking advantage of new technology. SWIFT is a message system designed to ensure that payment instructions are delivered to banks world-wide, rapidly, accurately and securely. SWIFT I, based on central switching technology, is now handling up to 500,000 transactions on an average working day.

## Trends

Its general manager, Carl Reuterskiold, describes SWIFT II as "a more complex system, designed round the transaction processing concept, using a decentralised approach which will provide more processing capability closer to the member and user banks." It also takes advantage of higher capacities, lower unit costs and other benefits made possible by the advance of technology.

The ways in which banks and other institutions are developing networks to provide financial services is one of the principal trends in electronic banking today.

The range of services includes electronic cash management, automated teller machines (ATM) networks and "cashless shopping" (electronic funds transfer at the point-of-sale, or EFT/POS).

There are signs that EFT/POS is at least about to make significant advances. In the U.S. where there have been a multitude of EFT/POS trials, Citrus Systems, which runs a major ATM network, is planning the first national point-of-sale system for its members next year.

Bruce Burchfield, Citrus president, argues that with

around 4bn ATM transactions last year, the plastic card has become identified with banking for the ordinary citizen; he expects the point-of-sale business to be greater than his company's ATM business by late 1988. Meanwhile, the rival Visa operation is planning to launch 10m of its multiple technology "Electron" cards.

In Europe, extensive experiments continue in France with a variety of EFT/POS systems, including the "chip" card, the plastic card with a microprocessor and electronic memory embedded in it so that it functions as an electronic cheque book.

While Belgium is making major advances in EFT/POS, much of the excitement this year has centred on the UK where plans to launch a nationwide system costing many millions of pounds have been put on ice while the most senior executives of the London clearing banks review the scheme.

While most observers believe that the scheme will go ahead, there are doubts about the timescale (the initial phase was timed for 1986) and the technology to be used.

Controversy over the fact that the EFT/POS project team were apparently convinced of the superiority of a networking proposal, put forward jointly by IBM and British Telecom, was further fired by an announcement from the same two companies, late in the year, that they were proposing to establish a nationwide network, based on proprietary networking technology developed by the computer giant. In the event, however, the proposed partnership was rejected by the

Government earlier this month. Meanwhile, all the big banks are establishing their own data-communications networks with the aim of cutting telecommunications costs and making it easier to offer new services.

NatWest, for example, has announced that it will be able to open on Saturday mornings—following the lead set by Barclays—only because of the automated services. It will be able to offer "through its own advanced network."

The "robot" branch, in fact, is already close to a reality, although most branches will still rely on people to handle the high cash volumes expected. Over 80 per cent of all payments made by bank accounts holders are made in cash and that is expected to decline only slightly by the year 2000.

Home banking systems will also run on networks—the German banks report success with a videodata-based system and a similar project initiated in the UK by the Nottingham Building Society is said to be going well.

Shared ATM networks, high-speed cash dispensers, account information terminals and automated methods of counting deposited funds are all part of the new pattern of branch banking. They are for the most part dependent on sound, secure telecommunications networks—and the passport into these systems is the ubiquitous plastic card.

Over the next few years, the development, enhancement and interconnection of these financial networks is certain to be a major trend in electronic banking.



### Computers in banking 3

# Scramble to upgrade communication links

Japan  
TERESA MA

DEREGULATION of Japan's financial system, coupled with a slowdown in credit demand from the country's maturing corporate sector, means that formerly censored financial institutions are having to work harder to cut overheads and win customers.

Banks and securities houses are now spending on computers and computerised communications the sort of capital sums previously reserved only for head offices. Banks are pitching to offer major clients not just electronic access to mainstream banking services, but also to international financial databases and agency services.

Much of the banks' higher tech ambitions exist at the moment only on the glossy pages of their annual reports. But, as Japan begins its huge "information network system" programme of telecommunications investment intended by the year 2000 to link every home, office and computer through optical fibres, micro-waves and satellites, financial institutions are doing no more than redefining within their own sphere of business a general domestic perception that Japan is moving faster than other developed countries towards becoming an "information-based society."

While Japanese banks are keen to expand their market share by establishing on-line computer links with their corporate clients, they have yet to develop cash management ser-

vice to the level reached in the United States. It was only in October, 1982, that the Government liberalised the use of computer circuits, enabling banks to establish direct communications with their clients and only in May this year did the Ministry of Finance give permission for bank clients to originate electronic transfers of funds.

Dai-ichi Kangyo Bank, the largest of Japan's city banks, has about 2,000 corporate clients—90 per cent of which are small businesses—with direct computer links to the bank.

Full-scale electronic banking has many implications for the financial structure. Banks and securities firms will no doubt have closer working relationships as a result. Recently, 14 securities firms and all 60 "sogo" or mutual loan and savings banks linked up for providing remittances of bond interest and stock dividends for clients of the securities firms. A main computer connected with terminals at the sogo banks has been installed at the Nippon Telegraph and Telephone Public Corporation.

(Japan's domestic telecommunications monopoly, due to be "privatised" next year) for this purpose.

Computerised services for corporate clients will take precedence over services to individual customers.

While banks and securities firms scramble to upgrade both the speed and content of computerised communications with institutional clients, the small individual client has to bear with time-consuming methods. It takes sometimes up to half an hour to pay bills at bank "guro" centers, and there are considerable charges

for simple fund transfers. The technology for bettering retail banking services is available but banks are reluctant to invest because such investment is costly and produces no profit for the banks, a banker said. "We are progressive on the one hand (in corporate banking) and very cowardly on the other," he said.

#### Tradition

Japan will have a long way to go before sophisticated retail banking services will be available. Eisuke Harada, an adviser to the president of Sumitomo Bank and former general manager of operations administration at the bank, feels that the obstacle lies not in reluctance on banks part to experiment with costly equipment but the Japanese people's traditional attachment to cash.

While banking transactions may be conducted via the telephone (the service carries a monthly charge as well as an additional charge each time of use), the customer still goes to a bank branch or an ATM terminal to withdraw cash.

Apart from the lack of profit incentives and the conservative attitude of the Japanese public, banks blame the rather backward state of retail banking services on the government's tight control over the financial industry. For example, the Ministry of Finance (MoF) sets a quota on the number of automated teller machines (ATMs) a bank can install in one year.

The MoF exercises control to prevent the collapse of small institutions which cannot match the financial resourcefulness or technological sophistication of larger institutions.

A few city bankers express sympathy and support for the government's concern. Nonetheless, the larger banks are looking forward to winning business from other banks when promised liberalisation of the financial system is completed.

Even the largest of Japanese banks are allowed to install only three new "outside-branch" ATMs in 1984. Sumitomo bank, for example, has only 23 independent ATM stations. (ATM stations, except for those located in bank offices, are considered to be equivalent to a full banking branch.)

At the end of March this year, there were 36,168 ATMs in Japan, representing all types of financial institutions.

"We are not sure how long it will take the Government to lift the control over installation of cash dispensers and ATMs," said Shunsuke Nakasuy, electronic banking manager at Dai-ichi Kangyo Bank.

"The only thing that is clear is that Government will raise the quota for new machines year by year."

It was only in 1983 that the MoF approved legislation to allow banks to install ATMs in the offices of their clients. Nakasuy said Dai-ichi is converting its off-line cash dispenser and ATM terminals into on-line terminals as government

policy towards converting existing machines is more lenient than that for installing new machines.

Personal computers were used in a trial home-banking scheme organised by Dai-ichi. Under the scheme, 83 clients of the bank were provided with a home-grown information package which allows access to account balance and general market data such as short-term interest rates, foreign exchange quotations, and information about securities and bonds, including interest rate details.

The trial began in January this year and is scheduled to run until March 1986. An interim survey of the trial has shown many shortcomings of the home-grown information package. Clients who responded to the survey complained of the short hours—nine to five—during which information could be extracted and the limitations of a one-way communication system.

In addition, the eight-byte personal computers being used do not provide printouts of the screen.

**High cost**  
Dai-ichi recognises that the pilot "menu" does not merit a commercial launch.

"Our main purpose is to gather information about home-banking, not implementation," said Nakasuy. In fact, the home banking clients will be persuaded to become subscribers to the nation-wide CAPTAIN service which will be commercially available at the end of November.

CAPTAIN stands for Character and Pattern Telephone Access Information Network.

It links the telephone network with a data bank, in which 30 Japanese and foreign banks, as well as supermarkets and department stores will participate as information providers.

Subscribers will be able to extract information on their financial standing as well as weather conditions, shopping guides and lottery results. However, the CAPTAIN service is targeted at small and medium-sized companies rather than the individual subscriber.

The initial cost of the service is high for the individual subscriber. The adaptor for connecting the telephone to the television set or personal computer terminal costs a minimum of 200,000 yen and may cost more than 1m yen for better quality display.

On top of that, the subscriber has to pay a flat subscription fee and the cost of making a telephone call.

But the CAPTAIN service is attractive to banks and securities firms because the cost for joining as an information provider is about 50,000 yen only.

While the information package must be designed by providers themselves, they do not need to install new equipment or adapt their existing mainframe computers to make it compatible to the telephone network.

## FT report on impact of fault-tolerant systems

A NEW management report: "Computers in Banking and Finance: the impact of fault tolerant systems" has been published by the Financial Times.

Fault tolerant computers are able to withstand failure of a single component and continue to operate. The cost of such systems may be higher than that of conventional systems, but is small in comparison with the potential losses following a computer breakdown.

The FT management report by Chris Summers, examines the users and uses of fault tolerant computers throughout the world. The report discusses why the established computer

manufacturers have not readily produced this equipment and covers in detail the companies formed over the past 10 years solely to produce fault tolerant equipment.

Already all companies in the financial and banking market include one or more fault tolerant vendor on their bid lists for new critical systems. By the end of the decade it is likely that only a token conventional offer will be included.

Copies of the report are available from Financial Times Business Information: 102-108, Clerkenwell Road, London EC1M 5AS, tel. 01-251 9321. The report costs £55.50 (\$154).

## New foreign exchange service

THE UK's Foreign Exchange and Currency Brokers' Association is to launch the "Automated Confirmation Service (ACS)", which will become operational early next year.

This new service is designed to replace the cumbersome and potentially inaccurate manual method of deal confirmations between brokers and banks in the foreign exchange and currency deposit markets.

The service, which aims to provide fast and secure confirmations, also has the potential for automatic reconciliation of deals within a bank's internal computer system.

To conform with current industry standards, "SWIFT" like codes have been developed

for deal confirmations. These are simple to understand and amenable to computer processing.

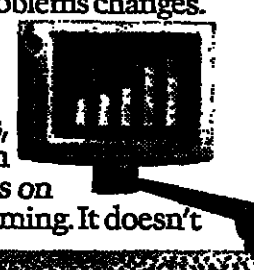
In order to provide greater flexibility, there will be a choice of direct delivery through British Telecom's packet switched service (Packet Switched Stream) or mailbox delivery through Telecom Gold's electronic mail service. Both methods will allow receipt of confirmations on equipment ranging from a small printer to a large mainframe computer.

ACS has been project-managed by Hoskyns and the service has evolved through close co-operation and consultation with industry standards, "SWIFT" like codes have been developed

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## Scandinavian banks are increasingly providing automated services to corporate customers, following the lead of many U.S. banks

# Common cards speed change

OF ALL the Scandinavian banking communities, Sweden is now poised to introduce several major electronic systems over the next few years.

The commercial banks have used on-line automated teller networks for several years and are about to install the second generation of terminals throughout the country.

The 14 of so commercial banks in Sweden, for example, operate in a very competitive market and are attempting to increase their share of retail banking in a difficult environment as the market is already highly developed with little room for expansion.

The coherent infrastructure in Sweden has allowed the banks to successfully automate many aspects of the banking business. Three spurs to this process are the common cheque systems, where an account number is unique to a customer and can be identified by every bank; transactions which can be carried out at any branch of any bank; and the agreement of cheque truncation.

Cheque truncation is a way of cutting down the processing of cheques. It never leaves the bank where it is presented. Instead the cheque becomes an electronic signal to the account holder's bank branch.

Recently the banks have also begun a large project to establish an on-line clearing system using the bank giro centre. On-line, in computer terms, means that clearing occurs at the time of the transaction, rather than a few days or hours later. Scandinavian Enskilda Banker (SE Banken) and Handelsbanken will be the first banks connected to the system on a trial basis, late next year.

#### Functions

Before then, the banks will start issuing a new type of bank card called the köpkort. This will pave the way for the country to introduce electronic funds transfer later in the decade. The köpkort has three functions: it is a cash withdrawal card for use with ATMs, it is also a debit card at the point-of-sale and it is a conventional credit card.

The banks will start to issue the cards to bank employees at the end of this year. The point-of-sale applications will initially be processed by hand but are planned to be turned into a full electronic service when the service builds up.

The köpkort may be used at petrol stations where more than 1,500 outlets have card operated pumps.

In Denmark, banks have already agreed on a similar common card called the Dancard. This will be used for the same purpose as the Swedish köpkort valid at all commercial and savings bank branches and in retail outlets for the planned nationwide network for electronic funds transfer at the point-of-sale (EFTPOS).

Burning issues which affect the introduction of such cards include the question: who pays for the extra equipment which is needed at retail outlets?

In Denmark the retailers have agreed to pay for the cost of the terminals and their installation while the communications, administration, central computer and networking costs will be met by PRK, the Danish credit

## Scandinavia ELAINE WILLIAMS

card and banking company. Cardholders will also be expected to meet some of the costs.

The Dancard terminals in Denmark were developed by GNT-Automatic in Denmark, but the system is sold and serviced by the Danish telephone companies.

In Norway, the banks have also agreed a common standard for automatic teller machines and far point-of-sale technology. A single card allows transactions at ATMs, petrol stations or supermarkets. The service is not free with users having to pay about 10p per transaction at petrol stations. Next year the banks hope to connect with a fully on-line computer system.

Finland was one of the first countries to automate services for the home. The Union Bank of Finland's home banking system has a voice synthesiser connected to its main computer.

All the customer requires is a touch-tone telephone. He dials the bank's computer centre and is linked directly to the computer which speaks either Finnish or Swedish. The customer enters his personal identification number and a four-digit security code which changes for each transaction.

Then the customer can pay bills, transfer money and find out the state of the bank account.

In addition Scandinavian banks are increasingly providing services to corporate customers following the lead of many U.S. banks. The Union Bank of Finland, for example, has a service called Telesypp, aimed at large corporations.

In Sweden, SE Banken has a major strategy in corporate banking using electronics technology. Apart from a SKC 150m order for the next generation of front office terminals, placed last year, the company already has an extensive computer network.

#### Services

The bank gives advice to businesses on the use of micro-computers for financial applications. It offers programmes on at least 20 makes of machines which the bank eventually plans will link into its main computer.

SE Banken also offers a range of corporate banking services like these available from international banks such as Citibank. The Swedish banks are also setting up a network called Banknet which would allow corporate customers to connect into the banking system. This system will be run by the bank giro centre.

This network may also be used by international corporations and foreign banks and should be operating within the next few years.



Computers in banking 4

# Technology cuts volume of paper-shuffling

**THE IMPACT** of computers and advanced communications on the banking industry is now headline news in France.

Accounting for about 18 per cent of total French spending on information technology, the banks have a major role in shaping the future of the French electronics sector.

Banking employees, traditionally profiting from exceptional job security, may find themselves slightly less cushioned in coming years as electronics gradually reduces the volume of bank clerks' paper-shuffling.

And the banks also have a big part to play in the social revolution overtaking France as a result of general information technology advances. Inspired by the business-like aims of cutting costs, fraud and the number of disoriented customers tired of waiting in queues, the banks are in the vanguard of efforts to simplify financial transactions through the use of video-screens, on-line computer links, and electronic terminals.

Like in other countries, the pace is obscured by wrangling over costs and methods among the different banking organisations, and especially with the strong interest groups represented by the retailing profession. But the banks have clearly marked their preference for moving quickly to the cashless society.

Most commercial banks are now controlled by the state following the massive extension of public ownership in 1982. But, paradoxically, nationalisation has been accompanied by a generally greater degree of freedom over banks' computer procurement.

**Directive**

Banque Nationale de Paris, the country's largest bank, which was nationalised in 1945, was forced by the Government to buy equipment from the state data processing group Bull rather than from International Business Machines when BNP presented a major computer programme for authorisation shortly after the Socialists took power in 1981.

The days of administrative heavy-handedness are now however gone. Although protectionist tendencies of course still persist, the Government recognises that competition has to be allowed to play in computer procurement. IBM, which does about half its French business with public sector users, including the nationalised banks, admits that its relationship with the present Government is better than it was with the previous

**France**  
DAVID MARSH  
in Paris

Right-wing administration.

Easing of restrictions over computer purchases is also partly a result of the diminishing weight of centralised mainframe computers, where IBM is traditionally dominant, in the banks' overall information technology budgets.

In growth areas like point of sale terminals and automatic banking machines, where the banks are making the biggest investment effort, there is plenty of French-made equipment to choose from.

And the banks are laying special stress on developing a financial technology product which is actually a French invention. This is the "smart card," containing a "memory" in the form of a microprocessor, which is starting to supplant the traditional magnetic strip-bearing plastic card in carrying out cashless transactions and a range of other applications.

An important step towards promoting the smart card was taken at the end of July with the signing of an accord between all the major banks to set up a single country-wide electronic banking system by the end of 1985.

The agreement was reached after 15 months of complex negotiations involving all the main commercial and co-operative banks as well as the Post Office network and savings institutions. It amounts to a harmonisation of activities—between two groups of banks which up to now have run different card networks, the Carte Bleue organisation which is affiliated to Visa, and the Carte Verte system run by the farmers co-operative bank Credit Agricole.

**Looking ahead**

The aim is to use the smart card as the axis of the combined network—which on present figures adds up to more than 10m card-holders throughout the country. A million memory

cards, fabricated by Bull, which also has signed a technology tie-up with Philips, are planned to be produced by 1985.

The state telecommunications authority is also developing smart card uses in cashless payphones, where the national "park" is planned to rise from 2,000 at end 1984 to 100,000 by 1990.

A preliminary setback to the banking accord in July has already been registered. This is a result of an agreement announced in September, giving non-French American Express card-holders access to Credit Lyonnais' network of French cash dispensers. The deal provoked a storm of protest from most of the other French banks, which claimed it contradicted the aim of setting up a unique card network.

None the less, it is clear that the momentum of setting up a national network of terminals for cashless transactions, linked to bank computers for 24 hours a day verification of transactions, is now definitely under way. According to the French Banks Association, the number of cash dispensers and automatic tellers (which can carry out more sophisticated operations such as making transfers or ordering financial services) is due to rise to 7,500 at the end of this year from 3,900 two years ago, with the prospect that 10,000 will be installed by end-1988. The average cost of the equipment is about FFr 700,000 per unit.

Around 40,000 point-of-sale terminals are expected to be in place in retailers by the end of the year (compared with only 8,000 at end-1983). The hope is to boost the network to between 70,000 and 100,000 by 1990.

Perhaps the most promising market—yet one where there is also a fair measure of uncertainty—is for the introduction of banking terminals in the home.

Two banks, Credit Commercial de France and Credit du Nord, have this year inaugurated home banking services. Clients can carry out transactions using the French-produced Minitel terminal developed for the nationwide home videotex network. The French PTX hopes to boost the around 600 by the new year, and to spread the service progressively around the country. This summer's sharp increase in telephone charges, imposed to help lower the budget deficit, will particularly hit Minitel users, and is bound to dampen initial enthusiasm for the home banking projects.

Each system comprises an OCR scanner, microfilm unit, CPU, tape drive, and 20 VDUs linked to an 80 M byte disc drive, permitting key-to-disc as well as OCR data entry.

**£3m order**

The first three Scan Optics OCR systems have now been installed and commenced live running at Barclaycard's voucher processing centre. They form the first phase of a £3m order involving five systems, which will be completed and installed at Barclaycard's premises.

The Scan Optics 3530 systems, which are capable of reading hard print as well as all major OCR fonts, will be used to process Barclaycard sales vouchers. Between them, the five systems will be capable of handling more than half a million documents a day.

**Software deal**

A BRITISH company specialising in processing software, the Watford-based Applied Communications (ACI), has won a contract with the Nederlandse Handelsbank (NHB Bank in Amsterdam), for the installation of BASE24 automated teller machine software worth £300,000.

The software, which runs on Tandem NonStop computers, will drive a network of Philips PTS 6601 automated teller machines and provide funds authorisation facilities for the experimental point-of-sale system due to become operational in the Netherlands next year.

**Open secret**

It has been an open secret for some time that Deutsche Bank has been preparing to make an electronic cash management system available to customers, although the bank has been tight-lipped about its plans.

Although German banks have tended to look askance at this field, technological advances and the pressure of competition have been inducing them to revise their position.

The scene changed significantly earlier this year when Dresdner Bank, the second largest bank, launched an electronic treasury management system for national and international data. The system, dubbed Dredcom, is built around the server computer and the BTX terminal.

Dresdner has long been a solid supporter of BTX, taking an enthusiastic part in lengthy field trials in Berlin and Düsseldorf and now offering its customers dialogue services on BTX, such as money transfers.

BTX has suffered a number of knocks. The Bundespost, the telecommunications authority, was disappointed that IBM could not meet the original target of handling over the system in the first year. However, the system, with its central computer in Ulm, has since been steadily extended nationwide and the Bundespost has been targeted to taking in commercial arrangements it introduced.

As a home banking system, BTX is regarded as having great potential, but it is uncertain how many users it can attract in the next few years. The Bundespost has long since shifted away from the original impression it gave that BTX aimed to have in users by the end of 1984. But officials are hoping that private users will be increasingly attracted as the price of equipment falls in the next few years.

In the short term, BTX is thought to be useful primarily

**Expectations**

At Commerzbank, Dr Joergen Terzabe—the board member specialising in technology—expects a number of dialogue work stations with terminals to increase from about 2,700 now to more than 4,000 by mid-1986. The number of personal computers, at present around 1,000, will grow to over 20,000.

Dr Terzabe sees computer technology as an increasingly important means of improving the quality of services for customers, and the advancement of technology continues to raise controversial problems, such as the future of bank branches and the way to introduce electronic services.

The German banks are endeavouring, through their common company G2S, to ensure that there is a uniform approach to electronic points of sale.

Some field trials have already been underway, but new large-scale trials are to be organised in West Berlin and Frankfurt, initially with the magnetic stripe card and later with chip cards. Cost sharing is one of the controversial questions still unsettled.

The advance of technology—encompassing banking—could mean the closing of a number of branches of West Germany's bank landscape, in view of the large number of branches.

Germany has 45,000 bank branches, and the Post Office has 10,000. Post offices have 200, and if you include them, you have some 60,000 bank stations. That means in Germany you have one bank station for fewer than 100 people.

Beyond that is the question of possible competition to banks from other financial institutions. Card systems and other developments could open the way for new money services by retailers, insurance companies and building societies, Dr Terzabe points out.

The main issue is to keep money in the banking system," he says.

**Big spenders**

In other communications and software areas, Geisaco has links with about six of the ten largest banks in West Germany, as well as with commercial and industrial companies.

Dresdner Bank, for instance, last year began operating the Global Limits system developed by Geisaco, which links the country and customer links in money markets world-wide. Deutsche Bank uses the Geisaco network in its international securities monitoring and order system (Discom).

The banks are aware, however, that individual consumers, while they might want specialised financial information and a means of conducting their normal banking, are not, unfortunately, will not buy the necessary equipment solely for this purpose.

Electronic advances in banking will therefore be part of a wider process which will see the consumer undertaking more and more transactions purchases from shops, arranging travel, and so on.

That is for the future. For the present, many consumers are already caught up in a quickening evolution of buying and paying habits. This comes from a central clearing system among the banks which is based on the uniform account numbering system. On this has been built a uniform cheque and uniform giro credit document.

The internal computers of the banks have prompted the spread of cash cards—the Bancontact of Banque Bruxelles Lambert and Kredietbank, and the Mister Cash of Société Générale de Banque.

The cash dispenser is every-

where, but this is only the start of the crowding use of cards. From the beginning of 1983 to the middle of this year, for example, Bancontact holders saw the use of the card spread to over 600 petrol-filling stations.

Customers buying petrol insert their card into a machine which not only provides the fuel but checks the credit rating of the card against the central computer and debits the account immediately.

"Here, it is not only the financial transaction between customer, supplier and bank that is integrated into the electronic chain of information, but also the delivery of the product," noted Kredietbank, making the point that similar but more complicated decisions can be taken by using the same process.

The most immediate possibility for the extension of electronics to point-of-sale is in department stores. Mister Cash cards are being used on an experimental basis at a number of stores owned by GB-Immo-BM, the biggest retailer in Belgium.

The major banks have been holding talks, so far without conclusion, on the chances of greater co-operation between the two cash cards, because the systems are not electronically compatible.

The banks, meanwhile, are concerned to develop the electronic side of their relations with other banks. Société Générale de Banque, for example has just signed an agreement with General Electric Information Services, the Belgium unit of General Electric of the U.S. This aims at the two part "study and implement a solution for the problem of controlling the limits in interbank exchanges on the international level."



**NEW REUTERS SYSTEM**

KEEPING track of a large bank's fast-moving currency deals is an ideal situation for applying computers to give up-to-the-second status checks. Reuters is now marketing a computerised "position-keeping service," developed by Howland Business Systems for the Bank of America. The system runs on IBM PCs, connected via one of Zynar's Plan series of networks.

When a foreign exchange dealer buys or sells currency he usually fills in a dealer ticket and duplicates the details onto a running tally, called a blitter. The tickets are then collected through the day for a position keeper to consolidate into the ledger. The tickets are then passed to the back office where they are used to produce a position report which, by then, could have taken as long as 24 hours to complete.

The Reuters position-keeping system eliminates these paper transactions along with the problems of time-delay and misread information.

Each dealer has in front of him a thin plastic tablet, marked out in small squares printed with a range of options, e.g. bank rates, currencies and amounts.

Now, all that the dealer needs to do after each deal is to touch the appropriate squares with an electronic pen. The system is flexible enough to cope with data input in any order. The deal is automatically recorded and can be printed out when needed.

Details of each deal can also be transferred to a client's computer for confirmation. The system includes a high-resolution colour screen on the dealer's desk to display the current spot position and spot and forward profit and loss.

# Gearing up for the electronic age

**THE PACE** of activity in electronic banking is now increasing in West Germany. Although some developments still look a long way off, or have question marks over them, there are nevertheless signs of growing interest—and more furrowed brows—in the upper echelons of banks and customers alike.

Harry Fritz Mueller, deputy chief of the Diebold management consultants in West Germany, estimates that the country's banks have a total budget for expenditure on data and DM 4bn a year with about half going on salaries.

**W. Germany**  
JOHN DAVIES  
in Frankfurt

He sees the emphasis in new expenditure shifting away from "classic" uses, such as account statements and book-keeping, to the whole customer service area and to the bank branches.

He envisages that personal computers will become much more widely used in Western German companies, including banks. While there is uncertainty at the moment in the face of an overwhelming choice of suppliers, he believes resistance to the whole customer service area and to the bank branches.

In the Dresdner treasury management system, BTX is the means of channeling data between the user and banks within Germany. BTX is interfaced with a personal computer, which links with international data transmitted via the Mark III worldwide communications and computer system of General Electric Information Services (Geisaco). Additional material from the user's own data-base can also be fed into the personal computer.

Commerzbank was the first of the large West German banks to venture into the electronic cash management field, with the launch in 1982 of a modified version of the Chemical Bank system.

The local subsidiaries of U.S. banks, notably Chase Manhattan and Citibank, have long been bearing away in this area in West Germany and are redoubling their efforts to attract customers to the idea of work stations with personal computers.

Chase, for instance, has Microvision system, built around presenting its Global around an IBM personal computer. The system, which Chase foresees that dumb terminals will be increasingly replaced by an intelligent device able to get access to various banks. He envisages BTX as being inter-related as a "feeder system."

Geisaco, which has a strong position in technology links with German banks, has been pressing the case for its Funds-Ner cash management system. Two large West German banks have been preparing to launch the system as pilot customers and the system is under consideration in other banks.

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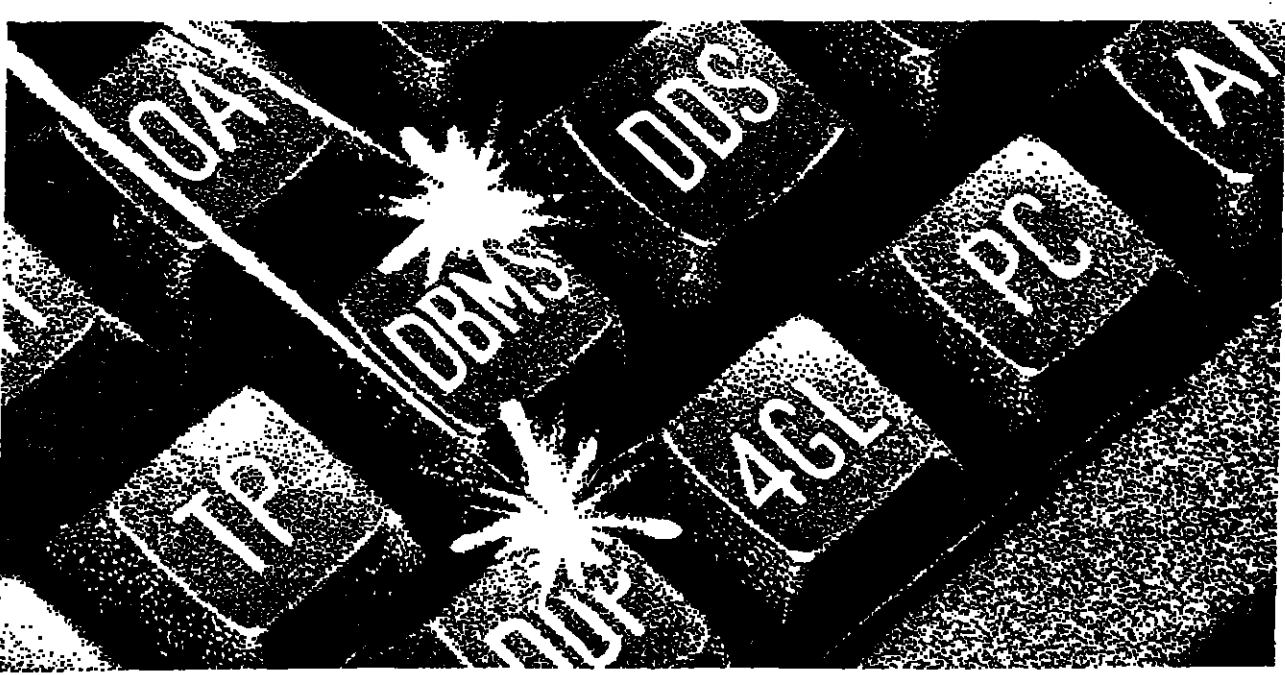
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# Electronic links between banks and their customers are increasing

## An important step forward

**Belgium**  
PAUL CHEESERIGHT  
in Brussels

**BE**LIUM is on the verge of a major change in banking practices which could take many transactions out of the high street banking hall and put them into an electronic system where a bank is directly linked to its customer.

This is the onset of the cashless society, but it is an important step towards it. Nor is it a revolution. Rather, it is a logical extension of a process which started a decade ago when the major Belgian banks took the decision to standardise their account numbering on 12 digits.

The first three digits specify the location of the account. The next seven provide the identity of the account. The last two are a control on the previous ten digits.

In general terms, the situation is that the major banks all have computerised internal systems which link with each other. Customers often have their own computers as well. The number is spreading.

What was once the preserve of the major international and domestic companies has spread to small and medium-sized concerns and thence into homes as personal computers have become more widespread.

The problem that the banks and their customers face is linking the individual systems together. Technically this is possible. Indeed, the banks stress that only the most basic equipment is necessary for a

direct telecommunications link between them and the customer. But the customer is going to have to bear the cost of the permanent line which would be necessary.

In the middle there is already a highly developed system of cables, the most popular form of transmission in Belgium for television programmes. But at this stage it does not appear to be targeted to taking in the transmission of commercial and private financial information.

Direct electronic links between banks and their customers are therefore limited at present. But they are growing. In 1982 Banque Bruxelles Lambert became the first of the three major banking groups and the other two are Societe Generale de Banque and Kredietbank—to offer a direct computer link-up.

BBL started to market Telemark, largely as a peripheral extra service to major clients wanting a quick and direct method of sending instructions and receiving information. But by the middle of this year Telemark had over 2,000 customers.

The bank found that having already invested in its own computer system it could offer at very little direct cost to itself a whole range of services—advice on tax liabilities, balance sheet information and so on. Given the historical development of electronic banking, the peripheral could become mainstream.

Others followed, and not only to offer automated payment transactions and statements of account. Kredietbank's ICE computer service for example can provide from its data bank original and analysed accounts of some 20,000 Belgian companies. The data bank will be swollen soon to take in the

affairs of 80,000 companies.

Possibilities are also emerging to help corporate management with their cash planning. A recent analysis by Kredietbank's research department highlights this possibility.

"An increasing number of banks," it said, "provide more or less sophisticated cash planning models which transform financial data into management information. The corporate treasurer has access to the bank's computer via an interactive terminal enabling him to communicate with the computer and thus to change the variables in the model and to have the computer calculate the effect on cash planning."

The banks are aware, however, that individual consumers, while they might want specialised financial information and a means of conducting their normal banking, are not, unfortunately, will not buy the necessary equipment solely for this purpose.

Electronic advances in banking will therefore be part of a wider process which will see the consumer undertaking more and more transactions purchases from shops, arranging travel, and so on.

That is for the future. For the present, many consumers are already caught up in a quickening evolution of buying and paying habits. This comes from a central clearing system among the banks which is based on the uniform account numbering system. On this has been built a uniform cheque and uniform giro credit document.

The internal computers of the banks have prompted the spread of cash cards—the Bancontact of Banque Bruxelles Lambert and Kredietbank, and the Mister Cash of Société Générale de Banque.

The cash dispenser is every-

كلنا من الامل



# AT 8.30 THIS MORNING SOME OF BRITAIN'S MOST SUCCESSFUL COMPANIES STARTED TO LOSE MONEY.



It happens every morning at the same time. Companies usually famous for making money actually start losing it. They're losing money on their money. Because they don't know quickly just how much cash they have, they can't make investment decisions quickly either. The problem, of course, is information. Or more precisely, the lack of it. Fortunately, it's a problem our Electronic Cash Management service has solved. Because the information that's normally available at our branches around the world can now be available on your desk. Even before we're open. At 8.30 every morning, in fact, a simple desk top terminal can now give you up-to-date information on all your UK bank accounts. (It completely up-dates your sterling accounts again by mid-day) By 9 o'clock it can complete the picture on accounts held anywhere from New York to New South Wales. (It also tells you of any maturing foreign exchange positions.) And by the time most company treasurers are sitting down to their first coffee it can have helped you

make important investment or funding decisions worldwide.

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All of which means we can now make sure your cash is working as hard as the rest of your business.

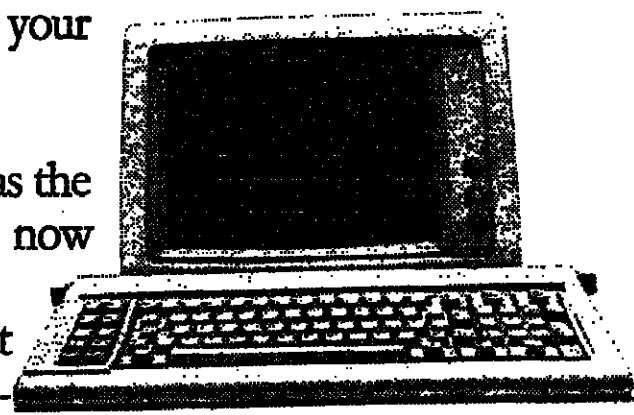
The only question to ask yourself, therefore, is what you'll be doing at 8.30 tomorrow morning?

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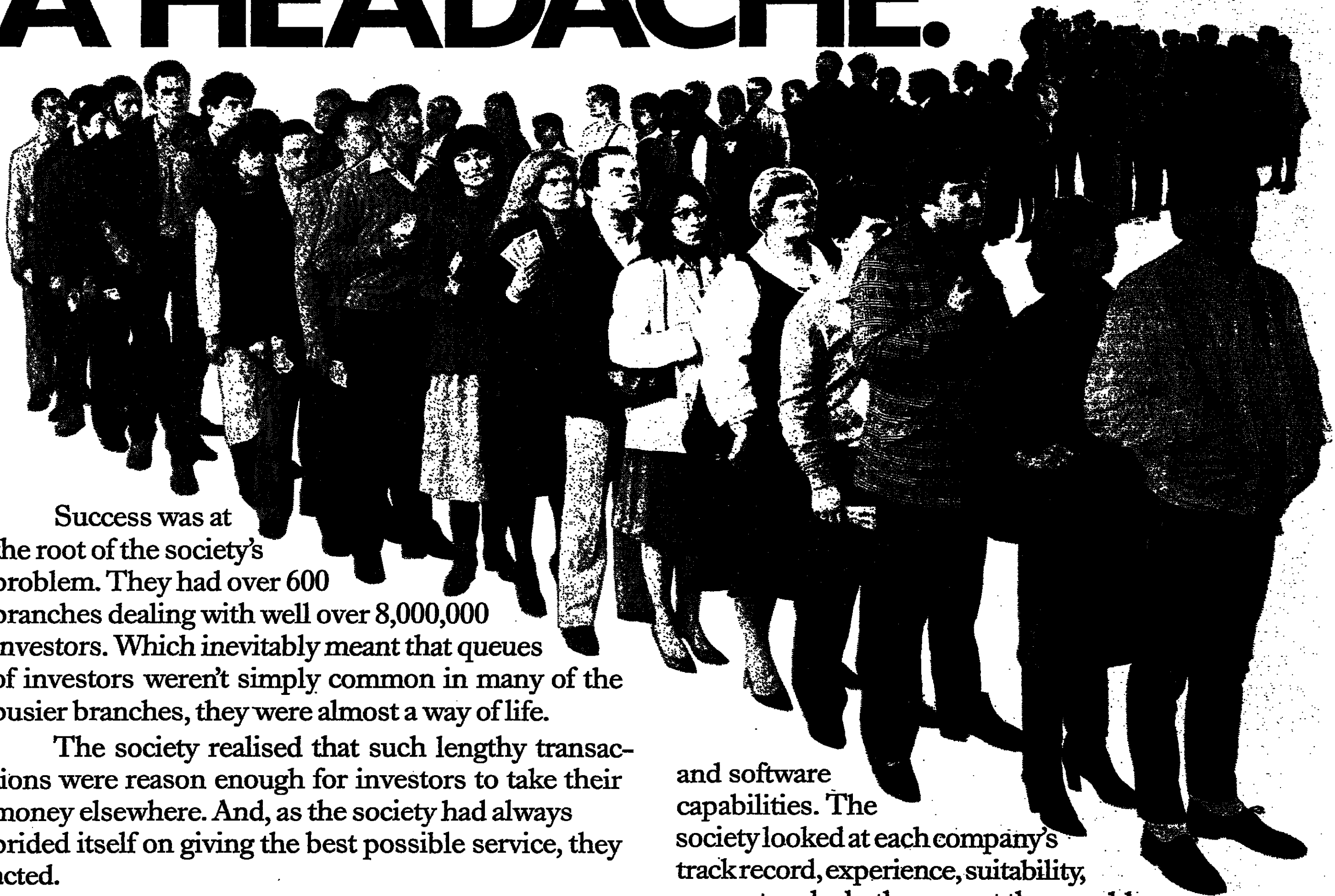
Or write to him at Corporate Cash Management, Barclays Bank PLC, 54 Lombard St., London EC3P 3AH.



**BARCLAYS**  
ELECTRONIC CASH MANAGEMENT



# FIVE YEARS AGO, ABBNEY NATIONAL CAME TO US WITH A HEADACHE.



Success was at the root of the society's problem. They had over 600 branches dealing with well over 8,000,000 investors. Which inevitably meant that queues of investors weren't simply common in many of the busier branches, they were almost a way of life.

The society realised that such lengthy transactions were reason enough for investors to take their money elsewhere. And, as the society had always prided itself on giving the best possible service, they acted.

They invested in our Line One Terminal Equipment and developed a system that improves service by cutting transaction time to the bone. A system that also simplifies procedures and improves cost-effectiveness and profit margins.

## WHY OLIVETTI?

Before the society decided on any new computer equipment, they analysed every single aspect of their business to determine exactly what roles they wanted the planned equipment to fulfill. They initially took these requirements to several computer companies.

They looked at each company's products. They asked each one to demonstrate its network, hardware

and software capabilities. The society looked at each company's track record, experience, suitability, support and whether or not they could actually get on with a given company.

(After all, they were going to have to work hand in glove with the successful company for many years.)

From their original list, the society drew up a short-list of three.

And finally chose us.

## THE FIRST STEPS.

We studied Abbey National's systems and network design. We looked long and hard at counter design, training, equipment installation and passbook design.

Six specialist groups developed and implemented each of these areas.



We held regular seminars to ensure everyone involved thoroughly understood the system and its implications before installation.

Our engineers, together with the society's architects and contractors, visited every branch to prepare for location of the equipment.

Finally, when we and the society were happy with the project, installation began.

**FEW ERRORS. FASTER SERVICE.**

Abbey National's Advanced Terminal System (ATS) has made life easier for both members and society staff. It's made service much much quicker for a start.

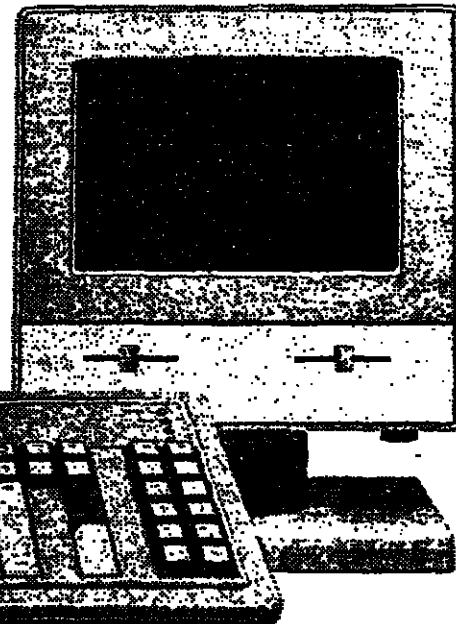
Now, the investor doesn't have to fill in every detail of his account and his transaction on a form. His new passbook has a magnetic stripe which records all his account details. He simply presents this passbook and says how much he wants to withdraw or deposit.

Exit one happier, more efficiently served customer.

And, because the cashier hasn't had to cross-check transaction details and physically enter these details into control sheets, then write the cheque, errors are eliminated.

ATS also reduces paperwork. It automatically updates balances, and transfers information.

The chances of a breakdown or disruption? Well, we can honestly say the system will probably never be affected by such occurrences.



It has total resilience.

That means, that if a fault occurs in one terminal, the information can be accessed on the next. And even if a fault occurs in the central computer, the system is designed to continue working.

At all times.

**THE FUTURE.**

ATS will keep Abbey National in the forefront of the market long into the future. But because it's quicker and simpler than conventional methods of service, it will help retain existing customers.

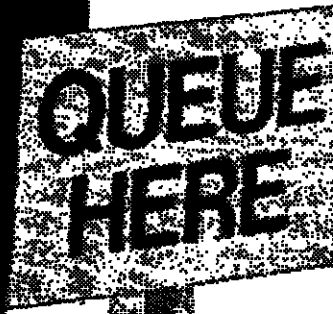
And more importantly, it will help attract new ones. It will increase the volume of business at each counter. It will continue to cut paperwork dramatically, and help the society to work to tighter cost controls. As market trends change, so too will the system. It is designed to grow, and adapt to the varying needs of the society. And its investors.

We've produced a short illustrated case history of the Abbey National project. It gives an in-depth assessment of how Line One system has cured the Society's headache. And why it can cure yours.

Use the coupon below to order your copy at £5 or to get more information.

The cashier keys in this amount, feeds the passbook through a printer, which automatically reads the data on the stripe, and prints the new balance.

If the customer needs a cheque, the cashier simply feeds a blank one into the printer which automatically prints the amount. Transaction complete.



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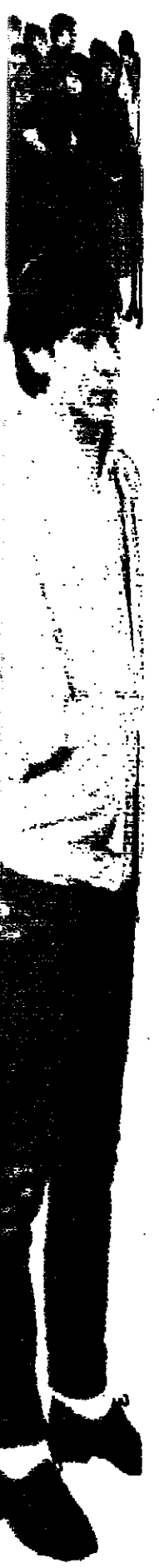
- Please send me a copy of the case study, 'Branch Automation in a large Building Society.' I enclose my remittance of £5 made payable to British Olivetti Ltd.
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## Computers in banking 8

Suppliers play technological leapfrog in a crowded market place

## Race to develop new systems

IT USED to be called electronic cash management; now automated treasury management is the name of the game—and developing the most advanced treasury workstation is the objective of a high-powered, and intensely competitive, group of banks and computer service companies.

The list includes Citibank, Chase Manhattan, Bank of America, Manufacturers Hanover and Chemical Bank among the banking majors, and Geisico and ADP among the computer companies.

Earlier this year, for example, Chase Manhattan Bank in London made much of being the first bank in Europe to offer an outstandingly successful computer software package, "Lotus 1-2-3," on its treasury workstation which it calls its "Global Microstation."

Other banks either gnashed their teeth or smiled quietly as they anticipated technological leapfrog with the launch of their own, slightly more advanced systems.

But if there is intense activity in the development of treasury management systems, it is hardly matched by enthusiasm

from the treasurers themselves. As Mr George Chelius, manager of sales and marketing for Manufacturers Hanover Financial Management Systems put it: "We see an awful lot of suppliers, an awful lot of systems in the marketplace, but, being very candid, not an awful lot of buyers."

What is happening, in fact, is that the market for these systems is split.

At the top end, there are the large companies with substantial treasury departments, a large number of bank accounts world-wide and the need and desire to make payments and

## Treasury management

ALAN CANE

move cash from one account to another, on a daily basis.

These companies are frequently better at managing their money than the banks themselves. One banker said: "They are able to prepare daily statements as effectively as we can." These companies either make use of a bank's proprietary system, complaining vociferously if features they require are missing. The treasurer of a company which took this route said: "Nobody is providing a system which suits us so we wrote our own."

Small and medium-sized companies, on the other hand, may have little need for a sophisticated cash management system.

They may have few overseas accounts, may not need to know their balances in those accounts with any great accuracy from day to day and may not need to switch money from account to account to exploit arbitrage possibilities.

All these companies want, in fact, is automated same day electronic payments at a reasonable price. These companies believe that the banks are not too interested in catering for their needs. Nevertheless, as one banker said recently: "To make real money from cash management systems, you have to have more than the top 50 companies using it."

The forerunner to all this, electronic cash management simply implied an electronic link between the treasurer and his bank's computers. It developed most rapidly in the U.S. partly because of that country's advanced position in (and willingness to experiment with) computer systems, but also as a natural result of U.S. banking regulations which forbade banks to operate outside their own state boundaries.

As a result, nation-wide companies experienced massive problems in managing their cash resources with banks accounts in perhaps ten different states and in ten different banking organisations.

A solution to this purely domestic problem emerged in the 1970s as the major banks began to provide balance reporting services—at least for their favoured customers. There was a natural progression from this kind of manual service involving a daily string of telephone calls to a computer-based system.

Some banks—Citibank and Mellon, for example—developed their own networks. Others used proprietary networks of which the most prominent is still Mark III, operated by Geisico, the computing services arm of the General Electric Company of the U.S.

Even if many companies are ambivalent about installing treasury management packages, there is little doubt that the potential market for such systems is large. That is why software companies, such as the UK-based F International now has a treasury management division and has built a system for, among others, Armstrong World Industries.

But the big question over the whole issue is the speed with which the banks will agree to share customer information to simplify multibank reporting. The London clearing houses automated payments systems CHAPS offers one possibility; the SWIFT message network another. The Nordic Banker Consortium and the U.S.-based Cash Management Exchange, with several hundred members, are working models of how it can be accomplished.

Time-sharing Chase Manhattan used the network of its own subsidiary, the International Data Corporation, a major time-sharing computer bureau.

Cash management services, chiefly based around balance reporting, developed rapidly in the U.S., but in Europe and the rest of the world, without the stimulus of the McFadden Act, progress was less swift.

In the UK, Midland Bank was the first to announce a cash management service (based on a system from ADP), closely followed by National Westminster (based on NDC) and Barclays (Chemical Bank's Banklink). Lloyds completed the quartet using the ADP system.

But the U.S. banks were moving on to internationalise their products and add new features

to enhance further their services. This led to the concept of the "treasury workstation," a terminal in the treasurer's office which would not only give him access to his bank balances and make electronic payments possible but would have a range of "decision support" aids built in.

Decision support at its simplest means programs like Visicalc which makes possible simple financial analysis and modelling.

At this point there was a remarkable synergy between developments in the computer industry and developments in electronic banking.

Market leaders IBM, the world's biggest computer manufacturer and supplier of mainframe systems to virtually every major bank in the West, launched its personal computer. Within two years it was the undisputed market leader and was becoming accepted as the executive workstation.

It was instantly adopted by banks developing treasury management systems as the basis of the treasury workstation and the race began to build in extra functionality for the treasurer.

Hence Chase's excitement at launching a workstation which could run Lotus 1-2-3, the major decision support aid of the time. Mr Michael Gallagher, Chase vice-president in charge of electronic banking said at the time: "A system which simply delivers balance information to the treasurer is close to worthless."

So the principal trend is towards integration: "The ability to take information from, perhaps, a cash worksheet and without any extra human work, pass it on to an accounting department where they can derive value and then reconvert it or anything else," as Mr Allen Cohen of AMC Associates told a Manufacturers Hanover seminar, earlier this year.

IBM and British Telecom are widely believed to have found initial favour with the Committee of London Clearing Banks committee looking into the best way of setting up a nationwide cashless shopping system because of the security and encryption techniques it devised.

The IBM method uses its own data encryption standard (DES) in a version called time variant encryption. The key changes for every transaction and is used in conjunction with encryption keys based on data read from the customer's plastic card and his or her personal identification number (PIN).

The CLCB committee, however, reviewing its position, intensive lobbying from ICL, the UK-based computer manufacturer, resulted last month in a request from the CLCB to submit full proposals for an EFT network. According to ICL, its proposal differs fundamentally from that already submitted by IBM and British Telecom, offering superior security and greater flexibility. The CLCB has also asked Racal, Tandem and NCR to submit fresh proposals.

"ICL's approach is based on Open Systems Networking, which allows the connection of equipment from any manufacturer using internationally

COMPUTER HARDWARE for banks used to mean mainframes, disc drives and mass storage and cheque reader/sorters, mostly supplied by IBM.

Now a vast range of equipment is on the market to satisfy the needs of the "bank of tomorrow."

It includes automatic teller machines, high speed cash dispensers, inquiry terminals, teller terminals, teller cash dispensers, fail-safe computers, branch processors, signature recognition devices, message switches, personal computers and cashless shopping terminals.

## Reliability and security are the key issues

THE CHIEF trends in computer hardware for banks are towards computer system reliability and to exploiting the potential of the microcomputer.

Reliability and security have become the key issues. Tandem, a U.S.-based computer company, has scooped up a significant number of prestigious banking contracts simply because it offers a computer which is "fault tolerant."

Single faults can be accommodated and the system keeps running. Bankers are beginning to realise—and it has shaken many of them to the core—how vulnerable their operations will be to both accidental damage and to deliberate fraud once they are computerised and networked.

There is consequently high interest in methods of making secure the huge numbers of financial transmissions which are now taking place over the world's telecommunications networks.

Important contracts are likely to depend on a supplier's ability to satisfy the banks and financial institutions in this respect. IBM and British Telecom are widely believed to have found initial favour with the Committee of London Clearing Banks committee looking into the best way of setting up a nationwide cashless shopping system because of the security and encryption techniques it devised.

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"ICL's approach is based on Open Systems Networking, which allows the connection of equipment from any manufacturer using internationally

agreed standards." ICL is already involved in what is claimed to be the UK's first major EFT/POS project, in collaboration with the Anglia Building Society.

Some 500 EFT/POS terminals are to be installed in all kinds of retail outlets in Northampton town centre; approximately 70,000 of the town's regular shoppers will carry the plastic card through an "AngliaCard". These customers will be able to pay for goods with funds from their interest-bearing Anglia accounts simply by "wiping" the card through a slot in the terminal.

The connection between the EFT/POS terminals and the Anglia's ICL mainframe computer will be courtesy of British Telecom. Fault tolerance, the capacity to recover from the kind of damage which would ground other systems, has become one of the most important requirements in financial computer systems.

Mr Christopher Summers in a report on the impact of fault tolerant systems in banking and finance said: "The growth of

Banking hardware

ALAN CANE

fault tolerant systems has been dramatic. The banks and financial companies have dominated the push into these types of computer systems that do not as a result of component failure."

"The importance of keeping computer systems running under such circumstances is vital now that huge sums of money are controlled by computer-held information."

Why has it taken so long for this trend to develop? In the early days, all the banks had were high-priced, high-performance mainframes. They were not fault tolerant and the only real answer to failure was "hot" standby machines—a duplicate of the operational computer, ready-primed and ready to go with the correct software.

As additional backup, companies would do deals with other organisations with similar mainframes to take on their processing load in an emergency.

Sometimes it worked, and sometimes there were catastrophic failures. Mr Sum-

mers tells the story of the Consumer Co-op Credit Union in Berkeley, California, which had to shut its doors for several days last year after computer failure put its data processing centre out of action.

That simply could not be allowed to happen in, say, an interbank payments system or a cashless shopping system, which is why Tandem has been winning business from the banks and financial institutions for the past four years for its "Non Stop" systems.

The Tandem approach is simple. All the major components in the system are duplicated so that no single component failure can put the computer out of action.

Very clever software handles the switching between the various elements in the system. The approach is expensive—£200,000 is a typical price for a Tandem set up—but for banks, building societies and the like, cost is not an object.

Tandem equipment has been installed in the CLCB automated payments systems (CHAPS) and is being used by the Bank of England/Stock Exchange gilt settlement system.

Tandem is now being chased by other suppliers who include Stratus, which because of its lower cost is favoured for building society networks.

ACI, the company which makes and supplies Base/24 ATM network switching software has versions of its product for both Tandem and Stratus.

What of the other mainframe manufacturers? Burroughs is an example of a company which has streamlined its strategy to the electronic banking world of tomorrow.

It understands that IBM is not likely to be shifted as the favourite mainframe supplier to the banks in the western world. (Only mainland of the four big UK clearing still uses Burroughs, and that is under review.)

So, Burroughs is building on its position as a major supplier of terminal systems to the financial world. It has yet to properly address fault tolerance but it is aiming at selling systems for bank branches which will require a central processor and distributed workstations but which will need a connection to the mainframe—they will have to be compatible with IBM in other words.

Burroughs has already had success in the building society world, selling a mortgage and investment system to Leamington Spa Building Society.

The issue of what type of organisations should be allowed to join the organisation is proving much more controversial. CEDEL, an international clearing system for securities was allowed on to SWIFT in 1981 and Euroclear, a comparable international securities system, in 1982.

The right of subscribers to join SWIFT was rejected in April. There is also opposition to computer service companies, which many banks use for cash management services, being able to connect to the SWIFT network.

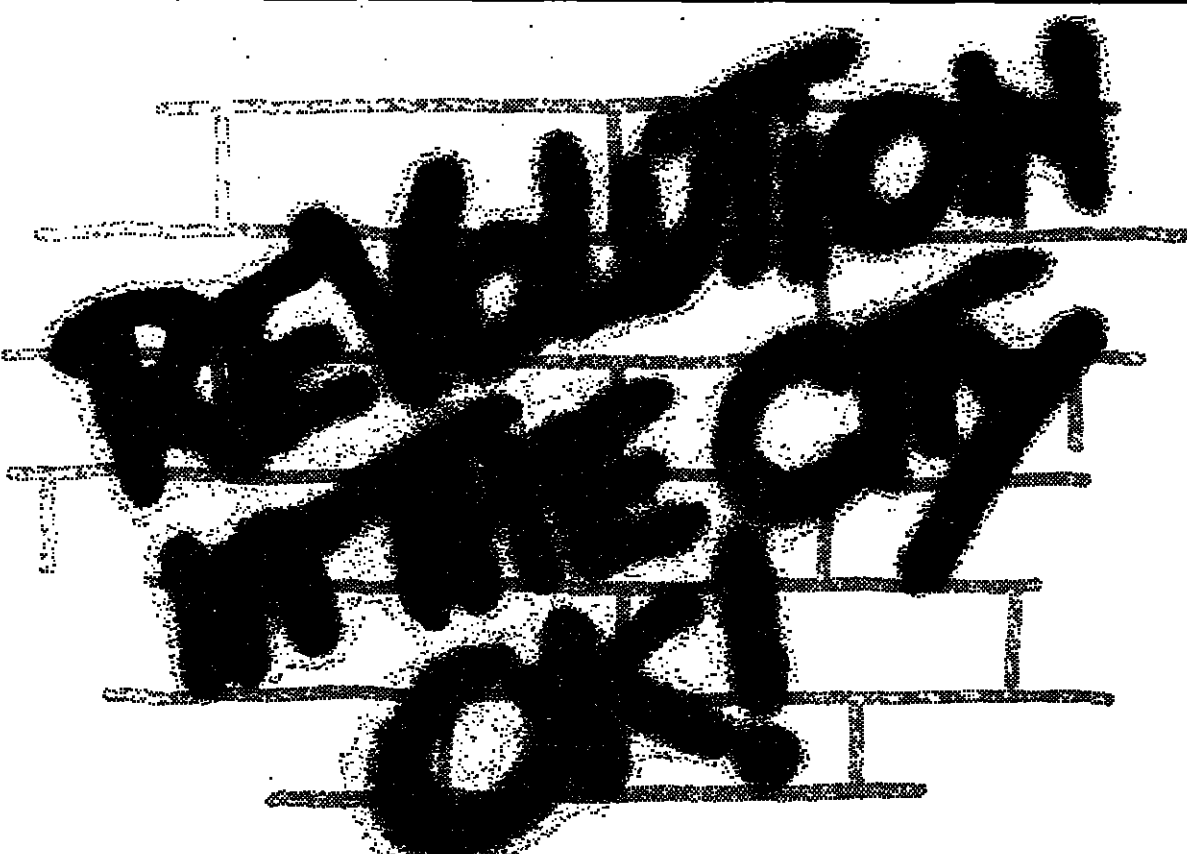
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## Link between 1,500 banks

SWIFT IS about to take wing again. The Society for Worldwide International Financial Telecommunication (SWIFT), which transmits up to 500,000 messages a day between more than 1,500 banks in 39 countries, will soon embark on a major period of technological development.

On December 2 next year the society will begin to introduce SWIFT II, a new computer system which will include all the latest advances in computer technology.

The present system, based on "old" centralised computer systems, is close to its physical limits. Its successor, which will have an initial capacity of at least 1m messages a day, will be based on the most recent decentralised network architecture and send information at rates of 9,600 bits a second.

SWIFT II will be introduced country-by-country—one a month—until the new network is complete. While the process is going on there will be a "migration period" during which SWIFT I and SWIFT II will co-exist and be able to communicate with each other.

By the end of 1988 all SWIFT I equipment will have been removed and all the users will be on the new system.

Mr Carl Reuterskiöld, president of SWIFT, told the annual conference of members in Barcelona last month that the organisation, now in its eleventh year, had come of age.

"The system and the company have become respected pillars of the international banking community. Many of you may be under the impression that we are now sitting on our laurels and act like dignified senior citizens. We are sorry to disappoint."

Hundreds of man years had been invested over the past four years in preparing for the arrival of the new generation of "intelligent" computers. The software alone would cost \$20m (£16m). The new computer system, the organisation says, will enhance the flexibility, speed and range of SWIFT services.

## The SWIFT system

RAYMOND SNOODY

Each slice network is a self-contained processor system which can continue its local tasks even if it is temporarily cut off from the other slices. This architecture is well-suited to keep up with traffic increase as processing power can be added where and when it is needed," say SWIFT officials. The advantages of the new system to the banks apart from being able to add new capacity without redesign of the system include:

● Improved retrieval. It will be possible to retrieve all financial transactions for four months compared with the present 14 days.

● Improved monitoring and control. Both the sender and recipient of the message will be able to specify the priority of the message to improve an orderly flow of messages. There will also be provision for delivery confirmation and warnings of non-delivery after a specified period.

● More sophisticated security and encryption of the message. "One of the users of the new system Mr John Houseman, executive vice president of the Irving Trust Company of New York welcomed the fact that SWIFT II could be used for inter-active communication. Such messages would be five times cheaper on SWIFT than telex, he estimated.

Irving Trust also approved of the increase in message size

from 2,000 to 4,000 characters. This would reduce the number of messages arriving on more than one page at different times.

SWIFT I has been doing so well in recent years that it has been able to generate the money needed to develop SWIFT II internally. As Mr Reuterskiöld told members last month: "One result of the ever increasing volume of traffic and of new members is the financial stability of the SWIFT company. Our loan commitment to the banks has been wiped out, all our capital investments have been steadily depreciated and our new investments are self-financed."

The charge for a message is BFR 18 (23.5p) and BFR 3 of that (around 4p) is set aside for new developments, such as SWIFT II. The 1984-85 budget forecasts revenues of \$63.7m, expenditure of \$45.8m, depreciation of \$10.4m with operating results of \$7.4m.

## Forecasts

But if there is at present financial stability and confidence over future technological developments there are still a number of questions over the future direction SWIFT should take. The two largest questions are to what extent it should expand geographically to take in smaller banks and countries, and which types of organisations other than banks should be admitted to membership.

Mr Robert Moore, chairman of the board of directors, believes that all members benefit from the opening up of new territories by SWIFT even



# Now a new generation emerges

THE CREAM of the U.S. banks have, for the most part, been through the software trauma.

Now the UK and European banks are in the throes of the most massive software exercise they have undertaken since the 1950s. It will cost each of them tens of millions of pounds and it will take many years to complete.

The aim is to modify completely and utterly the structure of their customer account files so they can market new and more powerful financial services to both private and corporate customer alike.

The strategic importance of all this was recognised years ago in the U.S. Now European banks are racing to catch up, driven by the fear of seeming uncompetitive if they cannot match the U.S. effort.

As one consultant said this week: "The bank that can supply these facilities at the earliest moment is going to make a killing."

Reconstructing a total company database is not a task that any organisation undertakes lightly. In the case of the UK clearers, it will virtually mean starting from scratch again.

Midland Bank well aware that it trails the British banking first league, is one of the leaders in this software marathon—with a view to remedying the situation. And such is the power of the new technology that it is perfectly possible that it will succeed.

### Relationship

The key is the idea of "relationship" banking where information held in the bank's files enables the bank to build a financial picture of its customers, spot changing customer patterns and modify its marketing strategy accordingly.

Salomon Brothers, the New York securities house, put it bluntly in a recent report: "We believe that banks must provide 'relationship' banking, encompassing not only transaction accounts, regular savings and credit accounts but also pre-emptive debt and credit reports for bill-paying, investment and tax accounts. Data-base systems must be capable of managing the movement of funds, calculating interest and fees and providing a comprehensive reports on these activities."

It went on: "Without integrated data-base systems, banks attempting to match competitive relationship offerings will be forced to use inefficient patchwork systems to link accounts, generate reports and calculate rates and fees."

### Banking software

ALAN CAINE

"As competition intensifies these banks will probably begin to introduce unreliable and expensive services. Such institutions will either maintain market share at a reduced level of profitability or lose market share."

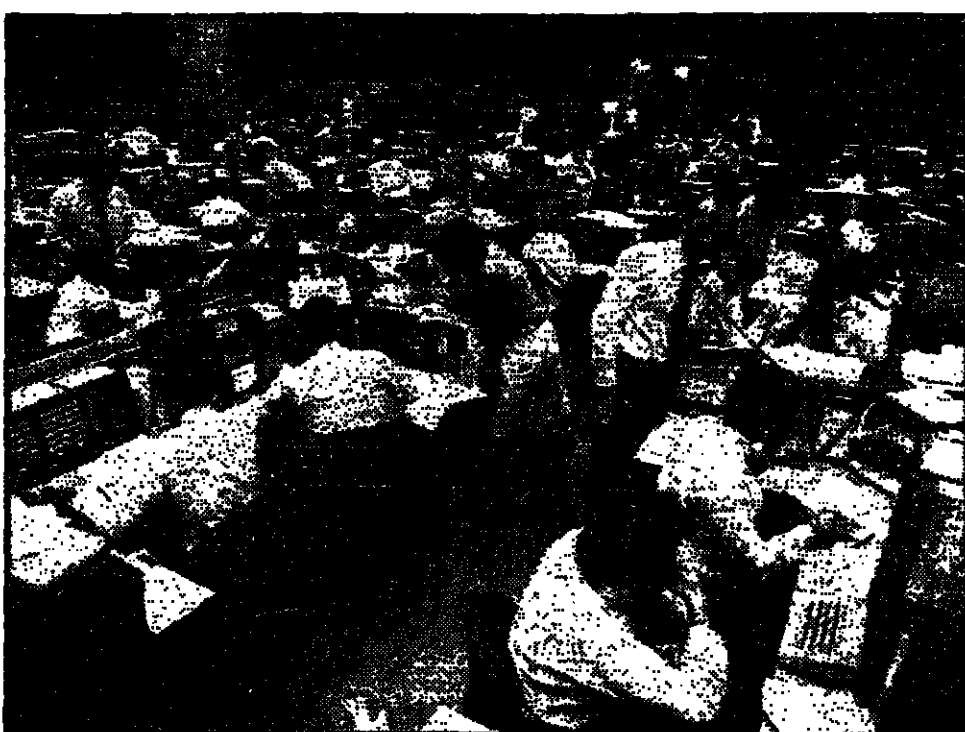
Integration, in fact, has become the name of the game in electronic banking with branch processing, on-line facilities, automated teller machines, electronic funds transfer at the point of sale devices, home banking systems and debit and credit cards all part of a common electronic banking plan and dependent on an integrated database.

That is the theory. In practice, even in the U.S. integration on this scale is hard to find, and many of the new systems are being developed piecemeal. And that could prove a substantial obstacle to rapid, efficient integration.

But nobody should underestimate the complexity of writing high quality banking software, especially these days. In the early days of automated banking, the big banks wrote their own software or had "blue chip" software houses, such as CAP and Logica to write it for them.

Other software houses marketed what they called their banking packages, usually small-scale pieces of software which automated a single function. International banking packages of this type often originated in London because the City was the heart of international banking and worked in multiple currencies. U.S.-built packages were based around the dollar and adapted badly to the international marketplace.

In the early 1980s, U.S. software houses such as Hogan and Anacom laid siege to the international banking market with ambitious integrated systems. Anacom proved particularly interesting. It signed up 12 banks in less than a year to



In today's competitive atmosphere, Salomon Brothers, the New York securities house (above), believes that "banks must provide relationship banking" using integrated data-base systems

provide research and development funding for its "Continuous Integrated System" (CIS), an integrated banking package designed to allow banks to update accounts immediately after each transaction and so avoid posting errors.

At the time, Anacom estimated the market for such systems at \$600m a year, growing to \$8.5bn annually by 1987.

Writing the software proved troublesome, however, and the company missed several deadlines. Previously well in profit from its data services activities, it posted a \$4m loss of revenues of \$172.2m in 1982-83. In the first quarter of this year, the loss grew to \$12m and the company rescheduled its debt with its sponsoring banks.

The system is still not operational; the core of the system will be tested soon at Provident National Bank, and an Anacom official said the company was optimistic about the results.

### Experiments

Hogan, on the other hand, with a less ambitious, more traditional approach, seems to have established clear credibility for its "supersystem". Securities House Prudential Bache (which makes a market in Hogan shares) noted: "Its state of banking software is the first fully functional, integrated product line on the market today."

Except for Hogan, none of the vendors who have delivered systems to date can claim to be able to integrate the full range of essential banking services around a central core of a few, flexible packages. Anacom has, however, recently launched a new product

# The big stumbling block is the cost factor

CASH has lots of obvious disadvantages: it's heavy and attracts robbers. Cheques are not much better: they generate mountains of paper. Yet the electronic age is having a tough time displacing them.

### EFT/POS

DAVID LASCELLES

Long-nurtured visions of a cashless society where transactions are all done by plastic cards and chips on a screen have so far remained very much that: the hopes of many, but the achievement of few. Today, there is not a country in the world with a successful system which allows shoppers to pay, at the point of sale, with some device that automatically transfers money from their accounts to the shop-owners.

There are plenty of pilot schemes, mostly on the Continent, and much talk elsewhere, but electronic funds transfer at point-of-sale (EFT/POS) has still to get off the ground.

EFT/POS is itself a rather vague concept, which exists in at least four forms. The basic idea is that the shopper should have some means—usually a plastic card—of activating a terminal at a shop check-out which will carry out the financial transaction.

The "on-line" type makes the transaction instantly so that by the time the shopper walks out of the door his bank account is poorer by the amount of his purchase and the shop's that much richer.

But while this is the most common form, there is also an "off line" system which only executes the transactions at the end of each day.

Then there is a combination of the two: the terminal checks the shopper's account to make sure he has enough money, but only debits it at the end of the day.

A fourth type is based on the "smart card"—a plastic card

with a memory chip which is "charged" with a certain amount of money from which each purchase amount is deducted.

Several pilot schemes are under way. One of the most extensive networks in Europe is probably Belgium's where banks have signed up a number of retail outlets, mainly petrol stations. In France, experiments are not so extensive, but use on- and off-line systems, as well as memory cards.

In the UK, the big clearing banks were to have launched the largest EFT/POS pilot scheme to date in 1986, effectively a nation-wide one. But they have now had second thoughts. At a meeting last summer they decided to commission yet another report on the subject whose results should be known by the end of this year.

In almost all these cases, the big stumbling block is cost, and who should bear it. The banks' view is that while EFT/POS is principally to their benefit in so far as it makes life a lot simpler for them, the retailers should also shoulder part of the financial burden. The banks have therefore been trying to convince shop owners that EFT/POS will reduce costs, relieve them of the need to keep large amounts of cash on the premises, and also help with their accounting.

These arguments have some force but are not totally convincing, especially to large retailers who already have elaborate, well-developed systems—and will always have

to keep cash around anyway for shoppers without plastic cards. Smaller shop owners are always reluctant to take on added costs: in fact shop keepers in Saint-Etienne, the scene of one French experiment, revolted when the banks tried to raise rental charges for the terminals.

But in addition, some UK banks have reservations of their own. Barclays, the largest bank (and owner of Barclaycard, the largest UK credit card organisation run by a single bank) is also not yet convinced that the cost savings will be that great. Given that the main aim of EFT/POS is to get rid of paperwork, it notes that cheques account for less than a fifth of the paper moving through the UK clearing system. So, even if EFT/POS is 100 per cent successful, its impact on the entire mountain of paper will be quite small, and probably not commensurate with the cost.

There are also concerns about the virtual dominance of the terminal and telecommunications markets by IBM and British Telecom, though as this goes by they should face increasing competition.

But the building societies may enter where the banks fear to tread. The Anglia Building Society, the UK's seventh largest, has just linked up with ICL, the UK's largest domestic computer maker, to launch an EFT/POS scheme in Northampton, a provincial town with 170,000 inhabitants.

If it succeeds it will be the first in Britain. Anglia is hoping to persuade retailers to take 250 ICL-designed terminals, and will then issue its account-holders with special cards with magnetic stripes which activate them and transfer money out of interest-bearing Anglia accounts to the retailers.

# A delayed revolution in the High Street

### Retail sector

DAVID CHURCHILL

BRITAIN'S retailers have given a mixed response to the development of new computer technology in retailing. In the late-70s, many major retailers were keen to embrace the potential benefits of using new electronic point-of-sale equipment and some likened it to the beginnings of a retail revolution comparable to the development of self-service retailing in the '50s and '60s.

Yet retailers' optimism about the speed with which new electronic systems would be brought in has become dimmed over the years as the recession, the cost of equipment and the reluctance to develop the necessary management techniques have all slowed down the pace at which such systems are being implemented.

At the same time, retailers have been rather slower to come to terms with electronic funds transfer at the point-of-sale (EFT/POS). The attitude at present appears to be a "wait and see" approach.

### Network plan

The Retail Consortium, which claims to represent the bulk of Britain's retailers, is rather reluctant to spell out in any detail exactly what retailers are waiting for. However, it appears that the aim is for a national network to be established, rather than a piecemeal approach, although the question of who pays for what equipment is still very much open.

There is no doubt, however, that computers will play an increasing role in retailing in the years ahead. Since retailing is a highly labour-intensive business and subject to sharp cost increases in other areas—such as heating and lighting, rates, and fuel for distribution—the need to make more efficient use of resources in all areas has assumed a new priority.

Computerised developments in retailing will continue to cover areas ranging from warehouse facilities to POS, from purchase orders to payment of

supplies, and from space allocation to staff scheduling.

The key to retail automation in the 1980s has been the development of laser-scanning checkouts, which have been introduced in the U.S. and on the Continent for several years but which are being introduced into the UK at a far slower rate.

Laser-scanning systems are based on the bar codes now printed on between 70 and 80 per cent (by volume) of all packaged grocery items. These bar codes are built up of black lines of varying thicknesses which represent a 13-digit number unique to each product. Each number identifies the manufacturer and gives full details of the product, including its size and weight.

The numbers are allocated by a central body called Article Number Association which has reserves of about 10bn numbers available to identify individual products.

As this laser check-out process takes only a fraction of a second, the cashier need not key in prices manually, the entire checkout procedure is likely to be both faster and more accurate than conventional checkout systems.

Supermarket retailer Tesco has been in the forefront of scanning developments in the UK but has embraced scanning more vigorously in its Victor Value, limited-range discount stores.

Each Victor Value store carries a range of about 1,000 popular grocery items. Every product carries a bar-code and all of the 30 stores in operation have been installed with scanning equipment. This is based on the configuration of two IBM 3684 controllers, to which are attached a number of 3685 registers and 3687 scanners.

Each store is connected to a 4331 host computer via a dial-up line which is used for out-bound transmissions of price updates and in-bound transmission of item movement data. IBM is in direct competition with several other computer companies in the provision of retail electronic point-of-sale (EPOS) systems. IBM and Datachecker/DTS are estimated to share about 60 per cent of the market between them, with

Datachecker/DTS having more installations than IBM, but IBM having almost twice as many checkout lanes installed.

As Dr GH Jones, chairman of the Retail Management Development Programme, made clear at the recent London conference on EPOS, that the market was already very crowded. Besides Datachecker/DTS and IBM, other strong contenders, in Dr Jones' view, include NCR, Mizdorf, Sweda, ICL and Eugen.

Unless each major multiple supermarket chain chooses a different supplier, it is possible that one of these major companies will end up with the lion's share of the UK scanning market.

### Centre-file

It is not just the retail giants that are keen to use new EPOS equipment. The Black Country and Leisure company, with 32 branches, is installing a computerised system to provide a reliable flow of management information.

"We cannot expand tomorrow until we know where we are today," says Mr Gerry Bass, managing director.

Blacks turned to Centre-file, a wholly-owned subsidiary of the National Westminster Bank, for help. Centre-file offers a complete computer service for companies and its retail inventory management service operates by collecting all types of cash, stock and sales transactions and movements from a wide range of EPOS equipment using standard phone lines.

This information is then processed overnight to produce reports which can be varied to suit the retailer's individual requirements.

How fast will EPOS equipment be installed in retailer operations? A recent report by the Economist Intelligence Unit believes that the pace of installation is likely to pick up by the late 1980s. It says that, by then, "a significant proportion of large outlets will have introduced point-of-sale systems and streamlined their operations. Their operations should begin to percolate down to smaller outlets and exert competitive pressures which, in turn, could generate fears of being left behind."

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Computers in banking 10

Investors at home use viewdata to assess world markets

Share-shopping by keypad

Viewdata developments

RAYMOND SNODDY

A CLIENT of stockbrokers Hoare Govett spends all his working week in France but commutes home to England every weekend. Most weekends he reviews his portfolio of shares and sends his "buy or sell" instructions to his London brokers. The instructions are waiting for the brokers as soon as they arrive on Monday morning.

"I often think, when I see our client's instructions, that he's probably in mid-air by then, somewhere over France," says Mr Douglas McGregor, a Hoare Govett partner in charge of new developments.

Such electronic flexibility is

the result of the viewdata system that Hoare Govett has introduced, using Prestel. The service, begun in May, allows clients to order shares from the comfort of their own armchairs, at any hour of the day or night.

The service is a sign that the concept of home shopping, using specially-adapted television screens, is slowly beginning to move from the experimental stage towards the first frontiers of commercial reality.

"We are delighted with the response so far," says Mr McGregor. "We see a lot of interest being shown and people are now taking the idea seriously."

More than 200 of Hoare Govett's clients are already on the service, 95 per cent of them new customers. The viewdata investors can first settle down to consult more than 1,500 pages of information on the markets. The data includes detailed information on 370 leading equities and 33 USM stocks—

number soon to be increased to 50. Each user has to be a client of the stockbroker and has been given a 10-digit personal number, for security reasons.

Hoare Govett already plan to increase the number of services offered on their viewdata system which was designed by ICV, operators of CitiService. The next service is a stockwatch plan, allowing clients to build up their own personal page of shares on Prestel that they want to keep a close watch on.

It is impossible to assess how the HomeLink project is going. It has taken this particular building society into the first rank of new technology, but the Nottingham refuses to disclose the number of subscribers, beyond saying that several thousand are involved.

One recent survey by AGB Cable and Viewdata, based on a very small sample, indicated that many of the subscribers were pleased with HomeLink and that more than half of those sampled were using the service several times a week.

The spread of home shopping is, however, taking place slowly and in most cases is regarded as an experiment by those involved. Perhaps the best-known example is at Gateshead.

Negotiations

More fundamentally, Hoare Govett are in negotiations with a major bank to see whether the stockbroking equivalent of home banking—payment for the shares being carried out instantly on the screen—is feasible.

If Hoare Govett decide to go down this route they will be joining the Nottingham Build-

ing Society and the Bank of Scotland which are among pioneers in the development of paperless cash transactions for the consumer. The Nottingham-Bank of Scotland HomeLink scheme allows participants to check their building society or bank accounts on their television screens and also to pay household bills at any time of the day or night.

Mr Mike Fitzsimons, an assistant general manager of the Nottingham, pointed out earlier this year that consumers, when given a choice as to when they carried out their personal financial transactions, invariably choose times when banks and building societies were normally closed.

"We paid over 40 bills for people on Christmas Day and averaged 400 bill-type transactions each day during the Christmas period," said Mr Fitzsimons.

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The Gateshead Shopping and Information Service is a joint venture involving Newcastle University, Tesco and Gateshead Metropolitan Council. The system, which uses Redifusion computers, is also linked to a local baker and chemist, as well as a Tesco superstore.

Earlier this year the system moved from neighbourhood and community centres into individual homes. The service is mostly aimed at the elderly and the house-bound or those who find it difficult to visit the large stores of the city centre.

Debenhams, for example, uses viewdata to link its branches. And BL, too, has built up an extensive viewdata network to link its estate agents and estate agents have also developed their own private viewdata systems.

Forecasters are generally convinced that the home shopping revolution will come, sooner or later. Few care to be very specific about when, how or in precisely what form. But there seems to be a general consensus emerging that as much as 15

per cent of retail sales will desert the High Street for the home-shopping sector by the early years of the next century.

If that forecast bears any relation with reality it will be a slice of business that retailers will not want to lose.

It is not yet clear whether viewdata or cable television will be the key choice of technology that has the most potential for encouraging the development of home-shopping.

Mr Francis Baron, managing director of W. H. Smith Cable Services, believes that cable will be more effective for marketing than viewdata because of its greater information-carrying capacity. Earlier this year W. H. Smith decided to take itself off the Prestel system. The sales generated were far too few to justify the company remaining, says Mr Baron. He believes that the moving colour picture of the typical television commercial are needed to create images which will persuade people to watch and buy.

W. H. Smith is therefore planning a cable channel which will be able to show five-minute commercials on expensive products, such as new cars. "The consumer will be able to call up the commercial of their choice and eventually place orders via interactive two-way cable."

Although cable television itself is having a difficult birth, it could yet give a major boost to the transformation of retailing through information technology.

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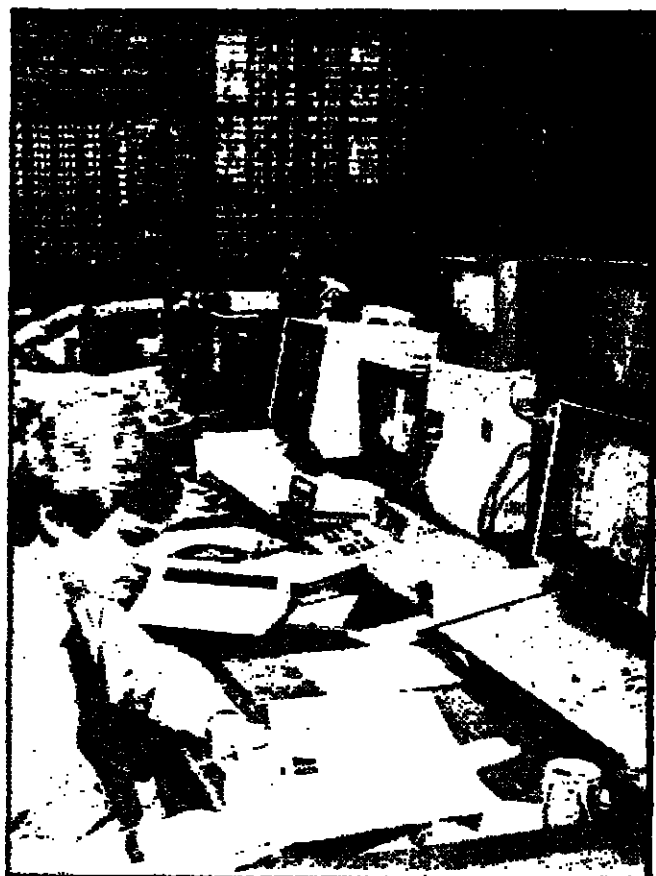
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Viewdata in the U.S.: VDUs encroach increasingly into Chicago broking rooms.

Transactions from the comfort of your armchair

Home banking

DAVID LASCELLES

HOME BANKING—using a personal computer and a TV set in the home to tap one's account and initiate transactions—first appeared on a mass scale in the U.S. and Europe about two to three years ago. Britain was a little later: the first experiment began just over a year ago when the Bank of Scotland and the Nottingham Building Society launched a joint scheme.

But though some of these systems have signed up large numbers of people (the largest in the U.S., Bank of America, has just over 15,000 households), they are still essentially experiments in which technology cost and consumer attitudes are all being put to the test.

A recent study of banking technology by the EEC Commission in Brussels concluded that: "It is unlikely that the adoption of full home banking on a widespread basis will take place before 1990. Certainly home banking systems will become available to many personal customers. But personal home banking will not become a dominant feature of the sector, still less have a substantial effect on its structure."

To do home banking, the customer needs his own personal computer and a telephone hook-up. He calls in to the bank and a menu of possible services appears on the screen. These vary according to the system, but may include paying bills, transferring money to another account, calling up a statement and ordering cheque books.

The attraction is the ability to do all this from the comfort of your own chair 24 hours a day, seven days a week, and with a high degree of security. Each subscriber has a personal identification number to preserve confidentiality.

Chemical Bank, the first New York bank to get a full-blown scheme going, now has about 10,000 subscribers, and finds bill-paying the most popular service. But its system is also able to handle electronic mail, and before long it expects merchants and credit card organisations to invoice customers directly through home banking rather than by letter, at huge cost savings.

It is also planning a new service, TradePlus, a brokerage facility through which customers will be able to buy and sell stocks and shares. It should be working by the end of the year.

Chemical's system, called

Pronto, can interface with several popular makes of home computer, including Atari, Commodore, IBM and Apple. Chemical itself uses a Tandem NonStop II system which is designed to operate even through breakdowns. Pronto has been licensed to eight other banks round the U.S.

The Bank of Scotland/Nottingham Building Society (NBS) scheme in the UK, though a later starter, is similarly ambitious. It is called HomeLink.

Technically, the major difference is that it operates through special terminals which are loaned to subscribers rather than microcomputers (it also has colour which is pretty, but not essential). The basic original service included statements, bill-paying and funds transfer, but add-on facilities are proliferating.

Customers can now shop for goods or order travel services through Thomas Cook, the subsidiary of the Midland Bank, and contact each other through an electronic mail network. The latter addition is a brokerage service which, like Pronto, allows users to place, buy or sell orders at any time of the day or night, and displays their investment portfolios along with details of tax, dividends and so on. In addition, this service will also give the latest market prices of customers' securities.

Customers can pay their bills, and receive the proceeds of sales through HomeLink. And since the service allows them to set up payments in advance, they can arrange for all transactions to be made automatically on settlement day.

HomeLink is also negotiating with Hill Samuel, the merchant banking group, to offer its services to their 400,000 customers along with Hill Samuel's viewdata.

To obtain HomeLink subscribers have to keep a minimum £4,000 on account—with the NBS though they receive 7.75 per cent interest on that money. Alternatively, they can keep £1,000 and receive 4 per cent. All subscribers have to pay a £20-a-year charge to Prestel, the British Telecom information service on which HomeLink is based.

The NBS has not given out any figures to substantiate its claim that HomeLink is a success. Mr Webster admits that it is not yet making money. However, an independent study last July by AGB Cable and Viewdata found that more than half of a sample of 1,000 subscribers were using the service several times a week.

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Lessons from Chips and Chaps

THE CITY OF London's town clearing system received a sharp dose of new technology last February, when CHAPS (the Clearing Houses Automated Payments System) was introduced.

The town clearing system was originally set up to handle the settlement of interbank money market dealing and stock transfers, and is limited to drafts drawn on branches within the Square Mile and for amounts greater than £10,000.

It operates using a fleet of highly trained messengers. Under the town clearing system, the payer presents his draft through his own settlement bank back to the payer's settlement bank for debit to his account.

With CHAPS, the sequence is reversed. The payer instructs his bank to make the payment on his behalf, which it does through the payee settlement bank. The payee, who, under the manual town clearing system, was the first in the chain, is now dependent upon his chosen settlement bank's intra-day balance reporting to advise him of receipt.

Bankers first started to make tentative plans for CHAPS, when it was realised that an automated system for pound sterling settlement was becoming imperative. Their first plan, called CHAPS I, was based on the New York system CHIPS (Clearing House Inter-bank Payment System), which operates around a central computer.

CHIPS handles around 175,000 payments each day, amounting to about \$190bn. In fact, the system has grown so fast, that many U.S. banks are worried about its security; there are now 21 banks taking part in the settlement process, and around 100 members in total, with more joining the queue for membership each day.

The first design for CHAPS was a large central computer, with the banks both settlement and participant, linked into it via standard connections. Logica (the consultants) recommended Burroughs, while the settlement banks (who would be paying for the system) favoured ICL. But as the development work went ahead and costs mounted, it became clear that flexibility and security in

the town clearing system were going to cause problems. Thus, CHAPS I was buried and CHAPS II was born.

The CHAPS II system consists of a series of Tandem "Gateway" computers in each of the major banks, linked by the British Telecom Packet Switching Service. There is no central computer centre, and each bank's CHAPS gateway connects into its own payments system, and it is via this, that customers, both bank and non-bank, achieve access to the pound sterling settlement process.

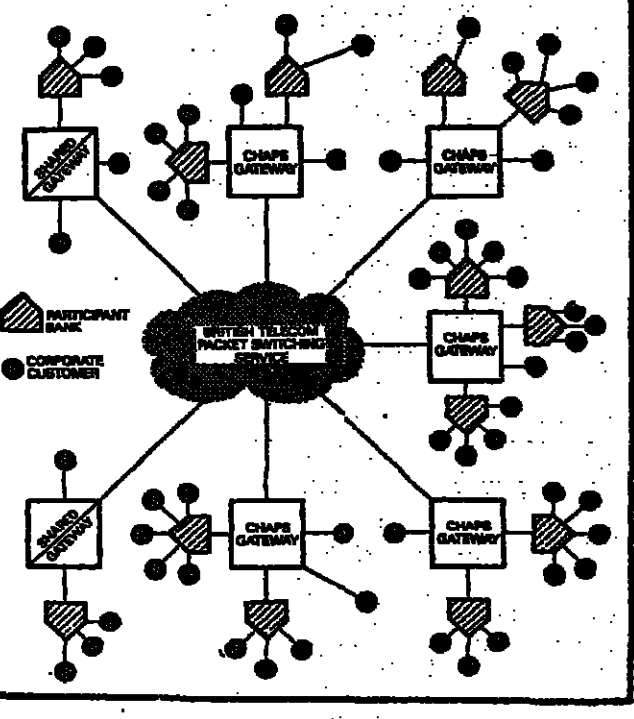
One major advantage of CHAPS over CHIPS, is that the clearing banks guarantee the funds in the system—in New York, banks have to wait until final settlement is made at the end of the day, before they know if the funds are bona fide.

CHAPS has been in operation now for almost a year, and apart from a couple of embarrassing moments—once when an engineer mistook the clock and switched off one of the principal computers before the payments deadline, and another time when BT's packet-switched network forgot that 1984 was a leap year—the system has been virtually trouble-free.

The statistics clarify this; CHAPS is now carrying an average of 6,000 transactions per day (although full capacity is 16,000 per hour with a total value of £4bn). The upper limit to the value of a single transaction (£1m in the early days) has been scrapped, although the lower limit of £10,000 is still intact.

But everything in the garden is not as rosy as it looks; there are still two major problems to be ironed out. The first issue is cut-off times. The deadline for CHAPS is a rigid 3 pm, which, the non-clearers argue, allows no leeway for the odd late payment.

THE CHAPS NETWORK



Under the original town clearing system, a late payment could be slipped in about 10 to 15 minutes after closing time, by a quick phone call to the beneficiary and an out-of-breath messenger on a bicycle! The clearers have agreed to try and make the CHAPS cut-off times less rigid.

More difficult

The second dispute looks like being more difficult to overcome. CHAPS is owned and operated by the clearing—or settlement—banks; non-clearers must go through a clearer to gain access to the system.

As competition between the clearers to win customers to use their gateway into CHAPS, has been encouraged, it has meant that each clearer has invested in a different computer package—Barclays and NatWest are making CHAPS available on Olivetti equipment, while Midland and Lloyds are using ICL and NCR respectively.

What this means for every non-clearer, is that it must install a different piece of

interfacing equipment for each clearer with which it wants to deal. And traditionally the non-clearers tend to use several such making CHAPS a very expensive system indeed.

As a result, apart from Bank of America, Citibank and a handful of smaller banks virtually all the foreign banks and merchant banks in the City are boycotting CHAPS. However, there are plans to create a low-cost "common interface," a black box, connecting participant to clearer. Friendly talks between the two sides are currently underway.

There is no doubt in the City of London, that after initial teething troubles, CHAPS will contribute substantially to the smooth running of the UK financial system. Keith Harshoff of Midland Bank told bankers at a correspondent banking conference earlier this year that "CHAPS combined with the settlement banks' UK networks and SWIFT and other networks for worldwide coverage, provide the customer with an unrivalled pound sterling transfer system worldwide."



# Computers in banking 11

## Bankers' growing concern over computer crime

**Financial security**  
RAYMOND SNOODY

WHEN teenagers in Milwaukee used their personal computer to infiltrate the computer system of the Los Alamos nuclear weapons research laboratory they of course hit the headlines.

But a report earlier this month from the American Bar Association made it clear that security in computer systems has to do with more than just devising methods to keep at bay any teenagers in search of an intellectual challenge.

The ABA concluded that the annual losses due to computer crime sustained by American business and government organisations was huge, by any standard. An analysis of 300 of America's top corporations suggested that average annual losses per company could range from \$2m (£1.5m) to as high as \$10m (£5m).

But the annual losses attributable to computer crime sustained by the relatively small survey group are conservatively estimated in the range of half a billion dollars, then it takes little imagination to realise the magnitude of the annual losses sustained on a nationwide basis," the report said.

### Headache

The target presented by the world banking system (which turnover a day) is enormously greater. The rapid development of electronic funds transfer and distributed computer networks has greatly increased the volume of money being transferred, and thus given a sizeable security headache to bankers.

Many specialists have, however, noted a considerable change of attitude over the past 18 months regarding the need for greater security on the new sophisticated banking systems.

In July 1983, Mr Kevin Kearney, an assistant manager of the Bank of International Settlements, told delegates to a scientific conference organised by Sperry, the computer company: "What is a bit disconcerting, to say the least, is the mad rush to embrace the new technology in order to gain real perceived advantages without proper regard for the possible consequences." The main consequence that Mr Kearney had in mind was the possibility of a catastrophic fraud because of inadequate protection for the electronic transfer of great sums of money.

Mr Kearney believed that there were three hotly-anticipated major fraud investigations by governments to enforce improved security or the banks would work together and take the necessary steps to prevent such a crisis.

It looks as if the third scenario is the one that is coming to pass. Dr David

Everett, managing director of Open Computer Security, a Brighton company which designs and manufactures security systems for sophisticated computers, believes that the attitude of top bankers has changed dramatically. "The whole thing has opened up much more quickly than I would have believed possible," says Dr Everett whose company has just completed work on a security system for a cash management service operated for the Midland Bank.

A further contract with another major British bank, he believes, is likely soon.

In the past year the staff of the bank company, which was responsible for the message authentication system at the heart of CHAPS, the Clearing House Automated Payment Scheme, has doubled to 40. The staff of the company, which has successfully sold 25 per cent of its equity to the institutions to raise the £500,000 it needed for development.

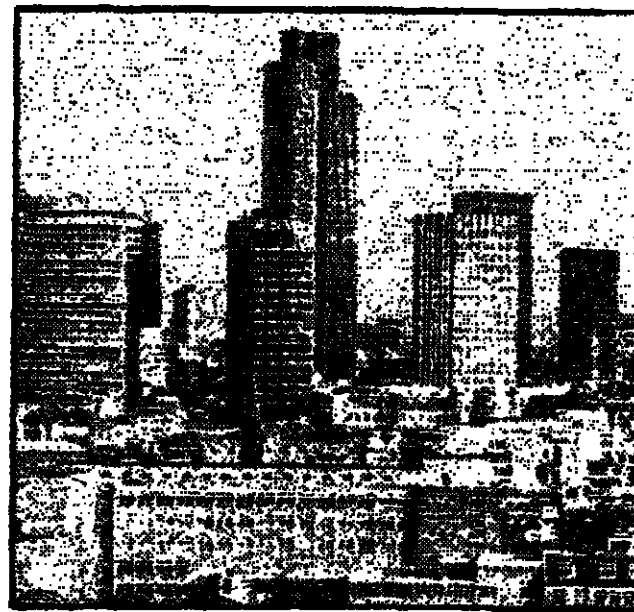
A year ago Dr Everett was saying: "I think they (the banks) have all got the message that they should be looking at security. But they still haven't got a sense of urgency and they don't realise how easily they might be at risk from micro-computer kids or phone tappers."

Now Dr Everett believes that banks have not only got the message but are in the process of doing something about it. Last month the U.S. Treasury announced that it would begin encrypting all its electronic funds.

Why has there been such an apparently dramatic change of attitude in such a short time? Clearly the publicity over the computer "hackers" and growing concern over computer fraud in Britain and in the U.S. has been a factor.

More important has been the changes in technology and the growing range of services that banks wish to offer.

Distributed computer networks and packet switching of information in digital form offer greater opportunity for interception and tampering than when central computer systems could be locked up under the



In the City of London, bankers say that the Chaps clearing system is "more secure than an armoured car"

control of data processing personnel.

There has also been a growing realisation that encryption—or scrambling—of the message may not be the ultimate security answer and that some form of authentication of messages is equally vital.

DES (the U.S. Data Encryption Standard) "can be generated on an IBM personal computer. An IBM PC could also break it," an international computer security specialist claimed.

Apart from the changes in technology, banks increasingly want to offer cash management services to their large corporate clients. This involves daily balance reporting from corporate subsidiaries all over the world to see whether unneeded balances can be put temporarily to work or converted into a more advantageous currency.

But once the decisions have been taken to move money electronically the system becomes vulnerable to computer fraud.

### Viewpoint

The greatest boost to security in the UK has come from the existence of Chaps, which went live earlier this year.

Many specialists believe that it is one of the most secure financial systems in the world. And it is becoming a model for other financial institutions.

"Chaps is more secure than an armoured car—you are not going to get in there," commented one expert.

In addition to encryption,

Technology will play a vital part in new market's success

## Key decisions still awaited

NOWHERE is the debate over information technology more urgent than at the London Stock Exchange.

Tomorrow the Stock Exchange Council is considering the computer technology which will be the heart of the securities dealing system of the future.

Computers which are currently used to record settlements—the exchange's Talsman system—and to disseminate market information—Topic—are to be used in the essential transactions of buying and selling stocks and shares.

Marketmen, who make deals on the Threadneedle Street trading floor and on their office telephones, will have a third line of contact—the link between one computer terminal and the next.

Behind the U.S., but behind Japan, securities dealing in London is moving into the electronic age. And although the day the last deal is struck on the Stock Exchange floor may be many years away, the Stock Exchange is now making decisions which will determine the shape of the high technology market which will take its place.

The outcome of the debate depends upon the more fundamental transformation that the Stock Exchange is planning at the same time. It has set itself a 1986 deadline for the abolition of fixed commissions and of the separation of brokers and jobbers, which will pave the way for a radically different trading system.

While no final decisions have been taken, discussion centres upon a system of competing market-makers, obliged to make markets in specified securities.

### Three factors

But whatever the choice, technology will play a vital part in the such as the new market for three reasons.

● If the technology is not cost-effective or is too slow, members of the Stock Exchange may be tempted to look to alternatives, especially as the "big bang" of 1986 will open up the UK securities market to unprecedented competition. This would lead to a fragmentation of the market and a loss of control for the Stock Exchange.

### The London Stock Exchange

STEFAN WAGSTYL



Securities dealing in London is moving into the electronic age as plans proceed for an integrated data network in the City

The Stock Exchange has been committed to keeping control over the technology of its market place since the 1970s and the introduction of the forerunners of Topic, which now distributes market price information almost instantaneously to about 2,500 terminals in the City and elsewhere.

This was followed by the establishment of Talsman, which matches up all the deals done in a day's trading.

The vision of the Stock Exchange and of the Bank of England is the establishment of an integrated data network (IDN) for the City, agreed in principle by the Stock Exchange council in 1982.

This will be an electronic ring linking computer terminals in City offices to each other. Each participant will be able to communicate with any other and will be able to code his information so that it reaches only its intended recipient.

Ultimately, as well as supporting a securities dealing system, it could act as the conduit for vast ranges of services run by different organisations including other dealing systems, information systems (such as Topic), and electronic mailboxes.

Moreover, instead of a separate terminal for almost every service as is currently the case, a single terminal, such as an IBM personal computer, will be able to receive everything transmitted on IDN.

The first stage in its development will come next year with the establishment of a computerised settlement system for gilts (fixed-interest government stocks).

Mr George Hayter, the stock exchange's director of technical services, said it would end the present manual system where accounts in the National Debt were settled by the shuffling of paper and by messengers running around.

Stock Exchange is adopted then competing market makers would feed bid and offer prices into the system which would disseminate them to Stock Exchange members.

The public would receive again via IDN, more limited price information of the kind that is currently distributed on Topic.

Events in the U.S. are both an inspiration and a warning for the Stock Exchange. There, Nasdaq—the electronic over-the-counter market launched in 1971 by the National Association of Securities Dealers—has grown so fast that its turnover now rivals that of the floor of the New York stock exchange.

Picking up a growing proportion of the deals of small institutions and individuals, Nasdaq's turnover has risen six-fold in the five years to 1983. Mr Hayter says that it is for this reason, among others, that the exchange sees it as important to own and control the principal communications network used for dealing.

Importance The gilts network, which is designed to become the core of a general-purpose IDN, is expected to carry at least 300 terminals in the offices of brokers and their clients, growing to perhaps 600 in three years.

Mr Hayter is in no doubt about the importance of IDN: "In building this major communications network for the securities industry, we believe that we are laying down a standard communications network that will be a major asset for the industry for many years."

## Bank unions worried over new technology

**Labour viewpoint**  
DAVID BRINDLE

week, but also a sign of NatWest's determination ultimately to do away with the jobs of all 11,000 of its cashiers in high street banks.

This fear has been aroused by NatWest's plan to offer no counter service at the Saturday banks. Instead, customers will be able to use card-operated cash dispensers and unmanned deposit-taking machines. If this is adequate for Saturdays, says Bifu, what price Monday to Friday?

A little paranoid, perhaps. But the bank trade unions have long been sensitive on the issue of computer technology and its implications for jobs. What is more, they see the issue coming to a head before this decade is out.

Bifu, which has 156,000 members across the finance industry, has made the running with a six-year campaign to try to control the introduction of new technology. The results, however, have been few and far between: so much so that Mr Allen Meadows, the union's president, told Bifu's conference in May that it had to be recognised that many members welcomed mechanisation of dreary, routine jobs.

### Agreements

What Bifu aims for are negotiated new technology agreements with a central clause "prohibiting any permanent job loss." The union believes that technology, implemented in an orderly manner, can bring progress towards a 28-hour four-day week for its members, five weeks' minimum holiday entitlement and voluntary retirement at 55 with pension provision.

To date, the only full new technology agreement Bifu has signed is with the Co-operative Bank. The union does, however, have consultative agreements with, among others, Trustee Savings Bank and the Access Consortium. There are also "mild" technology agreements covering individual items of equipment—a relatively successful compromise which Bifu may build on.

Mr Colin Moore, secretary of Bifu's computer section, identifies three main threats to jobs and skills:

● Automatic telling machines—the union concedes they are popular with customers but says personal contact is lost, together with jobs.

● Clearing House Automated Payment System (Chaps)—the union says thousands of jobs are at risk under the system, partially introduced in February of a computerised version of a bank messenger's City walk.

Electronic fund transfer—point of sale (EFT/POS)—is also a major concern, because of the potential for massive reductions in paper movements between retail outlets and banks.

In spite of six years' apathy among Bifu members, Mr Moore says he detects growing anxiety over computer technology. The union's "awareness campaign" is having an effect, he believes, if only judged by the increasing frequency with which he is asked to address local branches on the issue.

But out of the greater problem in this regard is that overall staff numbers in banking and finance continue to grow. They have in point to a greater increase in work and assured that the number of customer accounts and turnover, and a faster rise in part-time appointments.

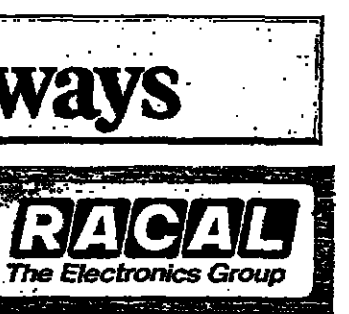
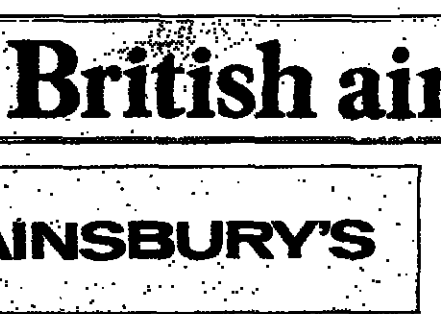
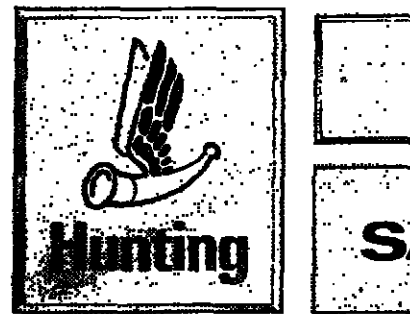
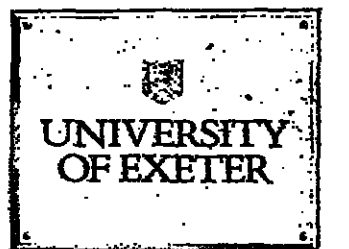
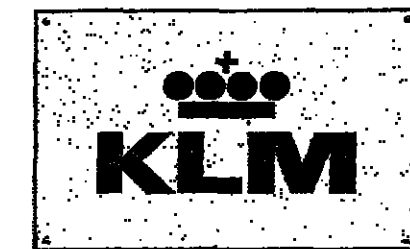
However, the Clearing Bank Union is keen to establish an estimate that employment in the main English clearing banks will fall by at least 10 per cent over the next 20 years. The union, which has previously little to develop formal policy on new technology, will produce a booklet on the issue in time for the annual CBD conference in Birmingham next month (November).

The CBD is a 97,000-strong non-TUC federation comprising, in the main, the three staff associations at Barclays, NatWest and Lloyds. Mr John Cousins, its new general secretary, has forecast a crisis over new technology and jobs when the banking system reaches the limits of its ability to clear cheques manually, probably in 1986. The union's Birmingham conference is likely to mark the beginning of a campaign of preparation for such a crisis.

Notwithstanding their mutual concern over new technology, there remains one crucial difference between the approaches of Bifu and the union. Whereas the former insists on no job losses, the latter believes no employer can be expected to give such a cast-iron undertaking.

Thus, Bifu waits on NatWest, while the CBD staff association has recently signed a job security agreement with the bank ensuring that "any adverse effect on employees may be minimised."

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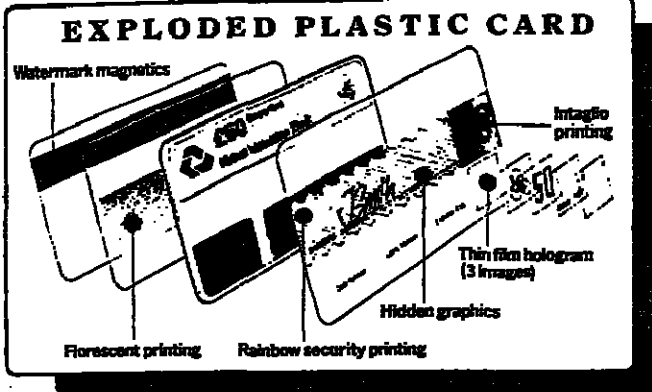
# Computers in banking 12

Laser techniques, holograms and signature scrambling systems are among the devices to outwit the growing numbers of cash card villains.

## New systems to combat credit card fraud

**Plastic card developments**  
GEOFFREY CHARLISH

SINCE the mid-1970s a number of plastic card technologies have appeared, aimed at reducing fraud losses (probably running at \$50-\$60m a year in Britain) and increasing the versatility of the card.



Security features built into PMI Data's new card

The problem is that most of the major card issuing organisations—mainly banks and credit card companies—are locked into the magnetic stripe system, now widely used on cash dispenser cards.

More recently, the stripe on credit cards, not used for years, has been brought into play for authorising purchases via the new transaction telephones. But in the main, the embossed characters on the card are still used to imprint sales slips that are mailed to the card companies.

Checking at the time of sale is by a manual phone call.

Fraud has not been too difficult. The villain either chemically removes the card signature (or pastes on a new forged signature panel) and signs the true holder's name in his own hand. The driving licence, stolen at the same time (leaving wallet or handbag otherwise undisturbed) is similarly doctored, and the crook can then sign sales slips freely, operating until the owner discovers the loss and the card appears on a "hot" list.

In the U.S., illegal mass production of cards is not unknown, and organised crime has attacked whole towns with them.

A picture of the holder laminated into his card, a solution advocated by Data Card International, makes the price per card relatively high, although it positively checks the card against the person presenting it.

Last year Data Card unveiled a laser technique that puts images into a card in the form of discrete picture elements (pixels), making them difficult to tamper with. At the same

time tiny numerals can be included, visible under a magnifying glass. The cards could be made for 23p each, it was claimed.

But the "ID" card approach seems not to be favoured in the UK and on October 1 members of the Committee of London Clearing Bankers began issuing a cheque guarantee card with multiple features.

The main improvement is in the signature panel. Any attempt to chemically remove signatures is made obvious by the release of fine particles which is difficult to forge.

The card also carries special colour printing that will confuse any colour separation camera used in preparation for forging, and Watermark Magnetics, a Thorn-EMI development, designed to prevent the magnetic stripe patterns from being lifted off and laid down on some other card.

During manufacture, with the magnetic oxide in a wet condition, the "watermark" is shadowed so that, on subsequent normal magnetic recording, the two sets of data become related.

Any attempt to lift the banking data fails because in the new location the relationship is destroyed.

The new CLCB card also contains a hologram-like picture in a 0.5 inch square panel, consisting of three images implanted at three levels. The image and its colour change as the viewing angle is changed. It is a safeguard against mass produced forgeries since expensive, specifically programmed laser equipment is needed to make the images.

### Bar codes

Visa members in some countries have been issuing a new design called the Electron Card in which the embossed characters and imprinted sales slips are done away with. Instead, the cards hold information in three forms, allowing them to be used with various kinds of retail terminal. A magnetic stripe will allow the holder's account number to be read on a simple shop counter transaction terminal working on line to the Visa computer.

In addition, optical character recognition codes are carried enabling transactions to be handled electronically by cash register systems such as those in department stores. Bar codes allow the card to be read by

laser scanners used in many supermarkets.

Initially the card will be used to obtain cash and make account inquiries at automatic teller machines on the Visa network. The shopping application will follow when retail outlets are equipped in viable numbers.

Another alternative is the "smart" card, a French innovation in which a tiny computer chip is carried within the card thickness.

The chip remembers the credit limit issued to it initially by the bank. At the point of sale, retailer and customer each use a separate terminal to give customer privacy. The shopper keys in his PIN (personal identification number) and plugs in his card which debits itself with the amount entered by the shopkeeper on his terminal. At the same time the card is given the shop's name and address and the transaction data.

The French have conducted trials in Caen, Blois and Lyons involving 125,000 cards. Both the Carte Bleue banks and Credit Agricole have adopted the card for funds transfer at the point of sale and the French PIN has chosen it for pay telephones.

There is no shortage of technical options. In Britain, British Telecom is using a hologram card developed by Landis and Gyr which is charged with monetary value and is debited by each call made until it runs out.

Britannia Building Society is using Opticode, a simple signature scrambling system. The cheque or card owner signature is printed via a lenticular lens and cannot be read until a "de-scrambling" lens is used by the counter assistant.

In the U.S., Drexler Technology Corporation has developed cards which deploy optical modification of a special surface rather than magnetic or semiconductor techniques.

The result is a capacity of about 2m characters, allowing a vast amount of data to be stored for many other purposes apart from banking and retailing.



Broadcaster and traveller Alan Whicker launches the new Barclaycard "Pinpoint" machine at London's Euston railway station. The service enables cardholders to buy rail tickets for up to 27 destinations direct from NCR ticket machines at the station.

## Robot help for the cashier

**Counter terminals**  
GEOFFREY CHARLISH

SOON, when the public tenders, receives or transfers funds, the person they deal with in bank, building society or shop will be sitting at a screen and keyboard terminal.

Such machines are being developed in banks and building societies because they enable the cashier to press a few buttons and be connected directly over the phone lines to the customer's account stored on the main computers.

Conventionally, such transactions have been carried out in "batch mode," that is, all the day's business is recorded by the counter clerks and then transmitted, often overnight, in a single batch to the central computer.

But for a typical transaction, say a savings account withdrawal by cheque, this can mean several operations, including completion of a withdrawal form, production of a cheque, manual updating of the customer's pass-book, recording the transaction on paper (probably twice for transaction listing and cash analysis), and then later entering all the information on a back office terminal for the batch transmission.

The latest counter terminals allow all this to be achieved, without leaving the customer, by means of one keyboard. Branch efficiency is increased—and so is the level of customer service. There is certainly more public satisfaction—the transaction is completed on the spot and the customer leaves with a printed entry in his passbook.

Speed is another benefit. Since each transaction need only take a minute or two, customer queues at peak times can be kept moving and counter manning levels minimised.

Most of the major computer companies offer equipment, but Philips, with its strong consumer electronics image, has well over 80,000 of its PTS 6000 workstations on order or installed in banks and other financial institutions worldwide. The Halifax Building Society has been one of Philips' biggest projects. Between 1980 and 1982 some 3,000 cashier counter positions were equipped.

Recently the Bank of Scotland ordered 1,700 workstations worth about £7m. Leicester Building Society is to equip more than 200 of its branches. Some of them will be supplied with card readers and PIN (personal identification number) keyboards.

The readers accept magnetic stripe "Leicestercards" issued to the society's share account holders, who can use them in self-service tills. The card can be used in place of the pass book for all transactions.

### Efficiency

These systems allow staff to run and manage branches more efficiently and competitively. In addition, however, they will allow staff gradually to change their role from administration and cash-handling to financial advising. They can use their knowledge and time to give personal advice to customers.

Olivetti claims to have 40 per cent of the UK building society market, with 8,000 workstations installed or on order for Abbey National (at a reputed cost of £16m), National Provincial, Leeds Permanent, Alliance and several others.

In Denmark, the company has just automated the 100th branch of the Savings Bank, bringing the total of workstations to 4,000. The whole project is thought to be worth about £32m.

Based on the Line One system, the installation provides integrated management of all the work carried on in the bank's branches—counter, back office, inter-branch communications, word processing, electronic mail, document filing and retrieving. Olivetti's latest acronym is IS2—integrated systems environment.

Last year Burroughs, which had been losing ground in the banking terminal area, signed a £21m development agreement with Fortraonic, the Scottish financial terminal maker, resulting in a new range of screen-based counter terminals. Burroughs sees the future to be in multi-function local network systems, depending heavily on its new B25 computers.

Nixdorf is on schedule with the Midland Bank, where 1,600 installations, for back office and counter top, are due for completion soon.

In August, Lloyds Bank moved into branch counter automation with a £2.5m order for 1,000 NCR 2262 terminals which will go into 150 of the bank's biggest branches.

IBM offers its 4700 system covering most aspects of branch banking and has sold systems to the Royal Bank of Scotland, the Co-op Bank and to the Cheltenham and Gloucester and Bristol and West building societies.

In spite of all this activity, the fact remains that the majority of consumer financial transactions do not occur in banks and building societies at all but in shops, mainly supermarkets and department stores.

Here, the cashier must deal with cash, credit card or cheque. The logical solution, EFT POS (electronic funds transfer at

### FT CONFERENCE

#### The future of electronic money

TODAY and tomorrow, October 22 and 23, a Financial Times conference, in association with The Banker magazine, will explore the principal trends in new electronic financial services under the future of "electronic money."

The chairman of the international conference being held at London's Hotel Intercontinental is Mr W. R. McKim, managing director of Royal Bank Group Services, and Mr Matthew Dwyer, vice-president of Citibank.

The FT conference, entitled "Electronic Financial Services," coincides with the exhibition of technology, equipment and services in banking and insurance, arranged by Industrial and Trade Fairs at the London Barbican Centre.

More details on the FT conference are available on 01-621 1355 (24-hour answering service).

point-of-sale) in the UK is still being grappled with by the banks and store chains while other European countries are moving steadily towards full-scale systems. (Examples are France, Denmark, Norway, Sweden and Germany).

In EFT POS, the shopper inserts a card, enters a personal number on a keyboard, the assistant enters the amount on her keyboard, and the customer's account is debited over a phone line to the bank's computer.

### Experiment

Although the petrol companies have local schemes, the first general experiment in the UK is planned for next year by Anglia Building Society at Northampton, in conjunction with ICL.

But funds transfer aside, Aster, Data Terminal System, Rugin, ICL, IBM, Olivetti, Omron, Philips, Sweda are all in the POS terminal business. They offer systems which capture transaction details at the point of sale, in order to control stock levels and generally monitor the store activity. The terminal at the same time acts as a "till." British retailers alone are likely to spend over £200m on such equipment in the next five years.

All these manufacturers will be in good position to offer totally integrated POS and EFT terminals—if that is what the banks and retailers decide they want. It is certainly the logical answer for the cashier. But for supermarkets, funds transfer authorisation will have to be very rapid to avoid check-out bottlenecks.

Meanwhile, Racal and STC have developed systems for automatic telephone line checking of credit cards. The holder inserts his card, the shopkeeper keys in the purchase, and the "transaction telephone" automatically dials the credit card company computer to verify the holder's credit.

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## High cost of recreating lost financial data

THE LOSS through fire of vulnerable computer media, paper, microfilm or microfiche can cause havoc in a business: all too often companies are not insured against the cost of recreating lost data, which can require hundreds, if not thousands of man hours.

Unless a company is prepared to pay extensive "consequential loss" insurance premiums, this cost is usually borne by the fire-damaged organization and not the insurance company.

Even when companies have paid the high price for "consequential loss" premiums, proof of the value of lost business has to be established, in order for the insurance claims to be met. Proof may be impossible if all financial records are destroyed.

Now a new series of fire-resistant data protection safes has just been launched by Levy

Safes of Holborn, London, under the collective name of Datamate. They come in four sizes with a wheelbase for mobility or on a fitted plinth.

The company points out that whereas paper can withstand up to 130 degrees C before combustion destroys it, magnetic media have far less resistance. Tapes and cartridges for instance, can only withstand up to 60 degrees C while a floppy disc will begin to deteriorate at temperatures of over 52 degrees C.

Safes designed to protect paper documents from the effects of fire will usually perform that function well, but there is no guarantee that magnetic media, placed in a document safe, will survive even an "average" office fire, which may reach temperatures as high as 900 degrees C.

## Pivotal service with a low profile

THE HEART of the UK's Bankers' Automated Clearing Service (BACS) lies out of the public eye, in the secluded north London suburb of Edgware, Middlesex.

Established in 1968, BACS operates on behalf of the major clearing banks for the processing of corporate payments and receipts submitted direct by individual customers or computer bureaux.

Payments made through BACS are transferred directly into bank accounts, or collected directly from them in the case of direct debits. The user simply records the payments or collections to be made on his chosen magnetic medium—tape, cassette or diskette—and despatches it to BACS City office in Broad Street, or to the computer centre in Edgware: the user may also transmit his data to BACS directly via a tele-communications link.

Tapes, cassettes and diskettes must be received at Broad Street by 5 pm or at Edgware by 9 pm on day-one of a three-day cycle. The items are processed by BACS and passed on to the banks by 8 am the next day. The money is available at the relevant bank branches by 9.30 am on day-three.

To join BACS, organisations merely have to contact one of the group of 14 sponsoring banks (which includes the five major clearing banks).

The number of organisations using BACS is growing by 25 per cent per year, and existing users include many of the best-known corporate names in the UK.

In 1972, 166m items were processed by the system—this rose to 609m in 1983—and is forecast to reach 1,900m by 1990. By the same year, it is estimated that the present figure of 20 per cent of all UK interbank clearings automated by BACS

will have risen to 40 per cent.

Payments made by an organisation to individuals or to other organisations that can be sent through BACS divide into four groups: monthly salaries, weekly wages, occupational pensions, and payment to suppliers. Other types of payments applications include grants and annuities, building society interests and business expenses.

In addition, bank-sponsored organisations may use direct debits for the collection of amounts due to them from

essential feature of this service is that time slots must be received in advance.

Alternatively, there is the demand service. Here, the sender acts as a terminal and connects to BACS using either the PSTN or PSS connection.

This service is designed primarily for short transmissions. For both services, receiving hours are from 8.30 am to 9.00 pm, but files may be submitted via BACSTEL up to five working days prior to the specified processing date. Processing time is the same for both communicated and magnetic data.

There are three major advantages of using BACSTEL over the traditional data-input methods—it is faster (2,000 items can be transmitted in 5 minutes), and independent of distance, it eliminates transportation costs and reporting back to the user in instantaneous.

Immediately a transmission is completed, the sender receives an acceptance advice from BACS. Security is not a problem either. Access is controlled through the use of passwords, and submissions to BACSTEL will not be accepted unless preceded by a log-on message containing a valid password. The organisation is looking to expand this method of data-input in the future.

RACS has been in operation now for over a decade and its efficiency and dependability are fully proved. There are similar institutions in Denmark, Holland, Sweden, Norway and the U.S. (on a regionalised basis), although none handles as many transactions as the British system.

BACS may keep a low profile, but there is no doubt that the service it provides is pivotal to the smooth running of the UK clearing system.

### Automated clearing

SIOZHAN HANEY

bank accounts of organisations and individuals.

The most recent system introduced for data transmission to BACS is the telecommunications service, BACSTEL, which enables users to connect directly to the BACS computer. (The BACS system is one of ICL's largest installations.)

Customers can use connections supplied by the Public Switched Telephone Network (PSTN), leased lines, Kilestream or Packet Switched Stream (PSS). The service runs on Tandem machines which are designed specifically for large communications networks.

There are two services users can access: firstly, a scheduled service whereby a time slot is allocated prior to each connection and transmission. Slots may be allocated at regular times or at short notice, for example, transmissions may be received at the same time on the same day each week. The

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